



SOMA NEWS

From the Sonoma County Mycological Association

Volume 28:9

May 2016

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Monthly Speaker

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Xylaria globosa (Spreng.) Mont.,
Photo by Danny Newman



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.

Taxonomic Research and Crowdfunding

Institute of Ecology and Evolution, University of Oregon, Eugene, OR | **By Roo Vandegrift**

I have recently completed my PhD at the University of Oregon under Dr. Bitty A. Roy and Dr. George C. Carroll. During the course of my PhD, I noticed a couple of things that have stuck with me, and have influenced the immediate path downstream from my doctoral degree.

My dissertation focused on fungal ecology—in part, the fungal ecology of tropical *Xylaria* (*Ascomycota*)—but along the way I realized that it is impossible to do good ecology without good taxonomy.

Unfortunately, good, accessible taxonomy is sadly lacking for the genus *Xylaria*: there has been some wonderful work in recent decades (see, for example, work by Dr. Jack Rogers and his previous students Drs. Yu-Ming Ju and Felipe San Martín González, the work of Dr. Thomas Læssøe, or the work of Drs. Adriana I. Hladki and Andrea I. Romero), but much of the literature is confusing, contradictory, and out of date. The genus *Xylaria* has never been monographed, and until some order has been brought to the chaos, such an endeavor would be foolhardy at best. In a conversation with Dr. Ju while our lab was writing a grant to study diversity and ecology of tropical *Xylaria*, Dr. Ju noted that there are 826 unique names for *Xylaria* and synonymous genera (*Xy-*

losphaeria and *Penzigia*) in MycoBank. In his expert estimation (of these 826 species “...86 have not been studied by me...” says Dr. Ju, with typical humility) less than half of these are good names. In the service of my ecological study, I have had to work very hard at taxonomy; and now, after years of study, feel like I have some sort of handle on the genus *Xylaria*, at least from the cloud forests of Ecuador.

This sort of taxonomic Gordian knot is not that unusual. I am sure many of us in the mycological community have stories like this one. I have listened with great interest to stories of the trials and tribulations from friends working on the genus *Morchella* trying to forge a consensus for names and classifications in that group. And who among us has tried to confidently pin a name onto a *Russula*, or a *Cortinarius*? Not to mention less conspicuous fungi, like those in the *Laboulbeniales*; while Dr. Alexander Weir’s lab, and more recently Donald H. Pfister’s lab, are valiantly attempting to bring some order to that chaos, the morphological classification systems are at striking odds with emerging molecular data, and the number of undescribed species is daunting at best.

I have also noticed a trend in science funding that worries me a great deal as a newly mint-



ed PhD. I started my dissertation in the fall of 2010, and have watched many fine labs, including my own, struggle to find funding over the course of my PhD work. My work (Vandegrift et al. 2015a, 2015b, Thomas et al. 2016) has never been directly supported by a major grant, though I have benefited from the infrastructure in place from other grants, written for other projects. Instead, I have raised money to support my work here in Oregon, in Ecuador, and later in Taiwan, through a myriad of smaller, student-based awards, funding field work and lab work with \$1000–2000 awards from groups like the Cascade Mycological Society, the Sonoma County Mycological Association, the Oregon Mycological Society, as well as the Mycological Society of America, among others. The National Science Foundation itself notes that:

When adjusted for inflation, federal funding for higher education R&D declined by 5.1% between FY 2013 and FY

2014 and has fallen over 11% since its peak in FY 2011.... This is the longest multiyear decline in federal funding for academic R&D since the beginning of the annually collected data series in FY 1972. (Britt 2015)

This steady period of decline, with no end in sight, corresponds precisely to the period of my graduate career. Daniel J. Howard and Frank N. Laird (2013) express that this is not unexpected; the growth of scientific endeavors in the US economy has far outstripped the available recourses. The funding model that emerged after WWII led to exponential growth in the number of researchers, with competition for grant money necessitating a pool of inexpensive, skilled laborers (graduate students), who then join the group competing for grant money, et cetera. Such a growth cycle is clearly non-sustainable. One obvious, immediate effect of the contraction of government research monies, and the resulting increase in competition for them, is a change in the type of research funded — funding agencies are increasingly attempting to fund transformative research, defined by the NSF as research that can “radically change our understanding of an important existing scientific or engineering concept or educational practice or leads to the creation of a new paradigm or field of science, engineering, or education” (National Science Board 2007). This push to preferentially fund such research makes sense: this is research with a high return on investment! Sadly, in practice this means that more basic, brick-

and-mortar science often gets neglected. This is becoming a real problem, because it is impossible to transform science that does not exist. One aspect of this is the systematic defunding of traditional taxonomic research. As has been noted elsewhere (Naik 2011, Rogers 2013), our alpha-taxonomists are retiring—or dying—with no one to replace them.

There has been a recent emergence of a new funding source: crowdfunding, which poses a tantalizing alternative to increasingly difficult to obtain federal research grants. This is essentially a grassroots-funding model; many individual people invest small sums of money into a given project. This funding model has been used in place of venture capital or investors in some cases, such as the 3Doodler (WobbleWorks LLC 2013)—a hand-held 3D printer turned three dimensional pen, which raised more than \$2.3 million in 2013—or MegaBots, Inc. (MegaBots, Inc. 2015), which raised more than half a million dollars to start a giant robot fighting league last year.

The potential of crowdfunding has not escaped the notice of scientists of all stripes, and there are now several crowdfunding platforms explicitly for scientific research, including Petridish.org, Experiment.com (formerly Microryza.com), and Walacea.com, in addition to more traditional platforms like Kickstarter and IndieGoGo. There have been many recent success stories, including the efforts to sequence parts of the human microbiome, which raised more than \$300,000

(uBiome Team 2013), and the recent effort to launch and test solar sail technology by the Planetary Society, which raised more than \$1.2 million (Nye and The Planetary Society 2015).

Fungal research crowdfunding has been a bit rarer, but there are some notable successes in the mycological world. The most notable is probably Peter McCoy’s crowdfunding for the publication of his book, *Radical Mycology* (McCoy 2014, 2016), which raised nearly \$20,000. Jacky Shay, a master’s student in Dennis Desjardin’s lab at SFSU, raised more than \$7,000 for fieldwork to collect and classify *Marasmius* from Madagascar (Shay 2015). My lab mate in Dr. Roy’s lab, Daniel Thomas, successfully raised more than \$3,000 to support a small research project in Ecuador studying the interaction of *Lecanicillium* and the coffee rust, *Hemileia vastatrix* (Thomas 2014), though the project did not proceed due to issues with collaborators.

Crowdfunding in science is notoriously difficult, though. Lenny Teytelman is one of the founders of protocols.io, an open source platform for sharing lab protocols openly. Their company used a successful Kickstarter crowdfunding campaign towards the end of development to literally save the company from bankruptcy, and he has written extensively on the subject of crowdfunding and science. He sums up very well a common problem in scientific crowdfunding efforts: “The true reward we promised was better and faster science; we did not

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Dispatch From the Duff May 2016

By Jim Wheeler

We have lost a dear friend and valued SOMA member. It is with deep personal regret that I inform you of Judy Tye-Angell's death. All of the SOMA Board not only grieves at the passing of a kind and generous person, but also for the loss her family suffers. Before becoming the SOMA Treasurer, Judy had volunteered at SOMA Camps for many years. We all will miss her and always remember the warm and thoughtful human being she was.



Judith Tye-Angell

have a physical product to ship in the end” (Teytelman 2015b). This fact, that the real reward of scientific crowdfunding efforts is often the warm, fuzzy feeling that you have contributed to science, is a barrier to the serious use of crowdfunding as an alternative to grant support. This leads to modest funding goals, and large proportions of the funding coming from friends and family of the researchers (Teytelman 2015a, 2015c).

It has been said elsewhere (Byrnes et al. 2014, Teytelman 2015c, Kraus et al. 2016, Vachelard et al. 2016), but it bears repeating: crowdfunding is product driven. Successful crowdfunding often hinges on being able to give

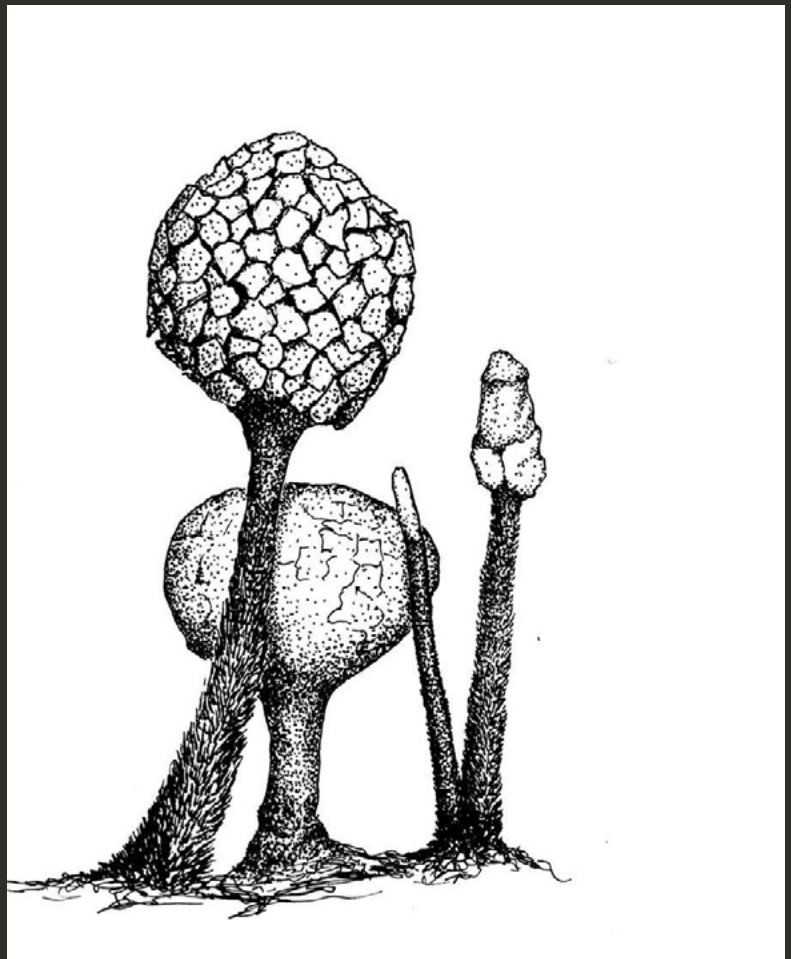
meaningful rewards. This is where I believe that the unique nature of taxonomic research intersects particularly well with crowdfunding. Taxonomy, the systematics and classification of organisms, generally has a much more tangible product than other branches of biology, and one that has the potential to be much more accessible to the average person: a work describing, classifying, and illustrating a group of organisms. If done well, taxonomic works can be functional, allowing people to confidently identify organisms they are interested in, as well as beautiful, full of lovely photographs or stunning illustrations. In this way, taxonomic projects take on an element of a

graphics project—people who may not be interested in science for the sake of science may be interested in the beauty of technical botanical illustrations, or photography of creatures they have never seen. This graphic nature allows for the creation of meaningful rewards beyond a paper or a book detailing the taxonomic study at hand, allowing the project to reach, and be funded by, a much larger audience.

I intend to test this theory using my knowledge of the *Xylaria* of the Ecuadorian cloud forests: I am launching a Kickstarter campaign this June to convert my hard-fought taxonomic understanding of this group into a thorough, care-



PhotoXylaria aff. *comosa* sensu Læssøe, stromata drawing. Each taxon will be illustrated with a drawing of the stromata entire, as well as a second drawing showing detail of surface texture, a section through the stromata showing the perithecia, and microscopic features, including asci, ascospores, and the ascus apical plug.



continued

ful taxonomic treatment for the region. This work will include nearly 50 species, drawing from our lab's nearly 600 collections of *Xylaria* from the Ecuadorian cloud forests, as well as the hundreds of cloud forest *Xylaria* collections in the Ecuadorian National Herbarium in Quito and other herbaria around the world. I am working with other experts in the *Xylariaceae*, such as Dr. Ju, to ensure the best taxonomy possible, and I am creating nearly 100 high quality drawings to illustrate each and every taxon (Fig. 1), and there will be a color photo supplement including as many taxa as possible photographed in Ecuador by Mr. Newman (Fig. 2)—no other work on *Xylaria* this century will be as well illustrated. Many ancillary rewards will use these drawings and Mr. Newman's photography for everything from stickers to a *Xylaria*-themed paisley handkerchief, making the campaign accessible beyond the group of people interested in perithecial *Ascomycetes*.

If you would like to help with this proof-of-concept for mycological taxonomic crowdfunding, you can join the mailing list by emailing me at CloudForestXylaria@gmail.com — I will notify you when the campaign starts, and send out sporadic updates on the progress of the crowdfunding campaign and the creation of the *Xylaria* illustrations, keys, and other taxonomic work.

References:

Britt R. 2015. Universities Report Continuing Decline in Federal R&D Funding in FY 2014.

Byrnes JEK, Ranganathan J, Walker BLE, Faulkes Z. 2014. To Crowdfund Research, Scientists Must Build an Audience for Their Work. PLOS ONE. 9:e110329, doi:10.1371/journal.pone.0110329.

Howard DJ, Laird FN. 2013. The New Normal in Funding University Science. Issues Sci Technol. 30.

Kraus S, Richter C, Brem A, Chang M-L, Cheng C-F. 2016. Strategies for reward-based crowdfunding campaigns. J Innov Knowl. 1:13–23.

McCoy P. 2014. Radical Mycology. IndieGoGo.

McCoy P. 2016. Radical Mycology: A Treatise on Seeing and Working with Fungi. Wild Mycelium, LLC. 672 p.

MegaBots, Inc. 2015. Support Team USA in the Giant Robot Duel! Kickstarter.

Naik G. 2011. The Fungus Among Us Multiplies As Mycological Taxonomists Wither. Wall Str J.

National Science Board. 2007. Enhancing Support of Transformative Research at the National Science Foundation. NSB-07-32.

Nye B, The Planetary Society. 2015. LightSail: A Revolutionary Solar Sailing Spacecraft. Kickstarter.

Rogers JD. 2013. Forward. In: Rosellinia—A World Monograph. Bibliotheca Mycologica. Shay J. 2015. Mushrooms of Madagascar. Kickstarter.

Teytelman L. 2015a. Biomedical funding is broken; crowdfunding is not the fix. Yes, another science blog.

Teytelman L. 2015b. Calibrating crowdfunding expectations. Yes, another science blog.

Teytelman L. 2015c. ZappyLab's Guide to Crowdfunding. PubChase. Thomas DC. 2014. Biólogos y Agricultores. Kickstrater.

Thomas DC, Vandegrift R, Ludden A, Carroll GC, Roy BA. 2016. Spatial Ecology of the Fungal Genus *Xylaria* in a Tropical Cloud Forest. Biotropica. DOI: 10.1111/btp.12273.

uBiome Team. 2013. uBiome—Sequencing Your Microbiome. IndieGoGo. Vachelard J, Gambarra-Soares T, Augustini G, Riul P, Maracaja-Coutinho V. 2016. A Guide to Scientific Crowdfunding. PLOS Biol. 14:e1002373, doi:10.1371/journal.pbio.1002373.

Vandegrift R, Blaser W, Campos-Cerda F, Heneghan AF, Carroll GC, Roy BA. 2015a. Mixed fitness effects of grass endophytes modulate impact of enemy release and rapid evolution in an invasive grass. Biol Invasions. 17:1239–1251.

Vandegrift R, Roy BA, Pfeifer-Meister L, Johnson BR, Bridgham SD. 2015b. The herbaceous landlord: integrating the effects of symbiont consortia within a single host. PeerJ. 3:e1379.

WobbleWorks LLC. 2013. 3Doodler: The World's First 3D Printing Pen. Kickstarter.

Cover Photo: *Xylaria globosa* (Spreng.) Mont., which often exudes a red pigment when in the conidial state. This is an example of Mr. Newman's photography, which will accompany the project in the form of a photographic supplement.

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VOLUNTEER BOARD

Open Positions

SOMA PHOTOGRAPHER

SOMA is in need of a volunteer photographer who can document the various activities of the club, and help liven up our monthly SOMA News and website. The individual should be available to attend most monthly meetings in Santa Rosa, most monthly forays at Salt Point State Park, SOMA Camp (three days in January every year) and the occasional dinner here or there. No professional experience is needed, given the state of the art in cameras these days, but ability to transfer photo files at the needed resolution is a primary task. The photographer may also be able to sell his or her photos/services via our media and meeting venues at no cost. Contact Chaz Thurston at chazwt@gmail.com or 707-799-9766.

SOMA Website Manager

SOMA's new website is being completed by an outside builder and the delivery date is not far away. We need someone with a bit of experience managing a website, including very basic HTML. Hopefully, the new site will be far more user friendly than the old one. Responsibilities would be to post new announcements, notices, photos, stories, etc., and coordinate with the Board for any membership tasks.

Please contact Jim Wheeler at SOMApresident@SOMAmushrooms.org.

SOMA News Editor

We are seeking a new editor of the monthly newsletter to assist in all phases of material gathering and 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 will 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. If you are interested, please send an email to me, Chaz Thurston, at chazwt@gmail.com stating your situation 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.



A wine shipper made of mushroom mycelium by EcovativeDesign.

Nature's Polymer for packaging, insulation, and more

By Justin Reyes

Mushrooms and other fungi, having been only recently domesticated in comparison to plants and animals, have the potential to revolutionize many facets of our modern lives. From increasing culinary acceptance, advances in health and medicine, to helping heal the earth using various mycorestoration strategies such as mycoforestry, mycoremediation, and myco-pesticides, as well as increasing crop viability and yields

in a time of changing and uncertain climate, we have barely scratched the surface of the fungal kingdom's potential. A company in New York, the brainchild of two college students, is helping build the foundation of this potential and is poised to revolutionize the world of plastics.

Styrofoam, or extruded polystyrene, was patented by Dow Chemical in 1944 and became ubiquitous in packaging, insulation, flotation, con-

struction, and more, and has become a scourge of the environment and of our finite resources. Not only does Styrofoam (and other plastics) take tremendous amounts of fossil fuels and energy to produce but the EPA estimates that Styrofoam comprises 25% of the waste in our landfills by volume. Styrofoam wreaks even more havoc on our environment; as a pollutant, Styrofoam and other plastics can take

thousands of years to decompose, clog our streams and rivers, and foul our oceans. Huge 'islands' of plastic have even been found in most all of the Earth's oceans, trapped by circulatory currents that prevent the waste from escaping. Styrofoam and other plastics are consumed by animals that mistake it for food. Chemical components of plastics are even found in our bodies and those of our children. As such it is abundantly clear that Styrofoam has significant impacts on us and our planet; from the consumption of dwindling fossil fuels, to ecological and biological pollution.

With that in mind, the revolutionary idea that sprouted Ecovative Design is a gamechanger. Using nonfood agricultural byproducts such as cornstalk, two students at Rensselaer Polytechnic Institute developed the idea of producing an easily compostable material that could replace Styrofoam in a wide range of applications. The agricultural waste or "feedstock" is chopped up, sterilized, and inoculated with mycelium (the threadlike vegetative part of a fungus), then pressed into a preformed mold. Over the course of a few days the mycelium colonizes the agricultural waste taking the shape of the desired form. When fully colonized, the form is heated to stop growth, cooled, and then used in a wide variety of applications. Even some Fortune 500 companies have seized on the idea to make their companies and products

more environmentally sound at little to no additional expense. Some forms are designed for use as insulation, others for shipping electronics, and others for shipping wine bottles; the potential applications are almost endless, and can be used almost any way that Styrofoam can. The mycelium forms are fire, moisture, and impact resistant and in its most important difference from Styrofoam, fully compostable! In the near future

we may see widespread use of mycelium products, "Nature's Polymer."

Mycelium electrical circuits? No longer so far-fetched. For more information visit ecovativedesign.com or watch TED talks by one of the Ecovative founders Eben Bayer, [Are Mushrooms the New Plastic?](#), and another by Paul Stamets, [6 Ways Mushrooms Can Save the World.](#)



Click to view *6 ways mushrooms can save the world.*



Click to view *Mushrooms are the new plastic.*

IMAGE OF THE MONTH

Agaricus Augustus



©Taylor F. Lockwood

ANNOUNCEMENTS

Italian themed mushroom dinner

By Jennifer Levine

Hello SOMA Members,

The SOMA Epicurean Group is hosting an Italian themed mushroom dinner!

The event will be at Daniel & Kiki's place, 9051 Mill Station Rd in Sebastopol, on Sunday May 22nd from 4 to 7 PM. Appetizers will be served at 4:30 PM.

We are considering possibly having a presentation to make the day more interesting and educational. Let us know if you have an idea about something you want to share with the group.

We ask that you bring either an Italian inspired appetizer or a dessert and let us know what that dish will be. The main course will be prepared by Daniel & Kiki. We are encouraging community participation with these events. Please let us know if you can help, in any way, with the following - set up or clean up. If you can help with set up or clean up, please contact Daniel Ghiglieri : dghigs1@gmail.com

Contributions for this meal are \$20 per person. Mail check, payable to SOMA, to:

Chris Murray,
PO Box 624,
Forestville,
CA 95436

Please put "Epicureans" in the note field of the check - this helps our bookkeeper. Checks must be received by one week prior to the event in order to guarantee your place and allow the chef to estimate ingredient purchases. We have a new form to register to participate in an Epicurean event: [Click here to sign up.](#) Please complete the form so we know you will be attending.

The form to claim reimbursement for cost of ingredients will be sent to you, upon request, once you have registered for the event. Please save a copy of the form for future reference. You must submit one together with itemized receipts to:

SOMA Treasurer,
PO Box 7147,
Santa Rosa,
CA 95407

Remember, no form or no receipt, no money :-)

Please take note: You must be a SOMA member to participate in this event. If you are a member, you can bring a guest. Please note that information in the form when you fill it out. Bring everything you need to present your dish, as well as your dining plates, silverware, napkins and wine/beer glass.

Recipe of the Month

Adapted from wiveswithknives.net

Mycopia Mushroom & Jalapeño Salsa



INGREDIENTS | Serves 4

8 oz. Chef's Sampler, blanched
1 minute
1/2 small red onion, finely diced
Jalapeno, finely diced
1/8 cup fresh lime juice
1/2 Tbsp. olive oil
Salt to taste
Cilantro to taste

DIRECTIONS

1. In a bowl combine blanched mushrooms, onion, jalapeno and cilantro. Add lime juice and olive oil and toss gently. Salt to taste.
2. Marinate for a couple of hours/overnight allowing the flavors to marry.
3. Serve as a topping for fish, chicken, grilled steak, or as an appetizer with a basket of your favorite chips.
4. This salsa is best served at room temperature or slightly chilled.
5. Makes 1.5 cups.

DIRECTIONS & MAP

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!

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, 95403. Fungi are displayed at 7 PM, and speakers begin around 7:30 PM. Bring in your baffling fungi to be identified!

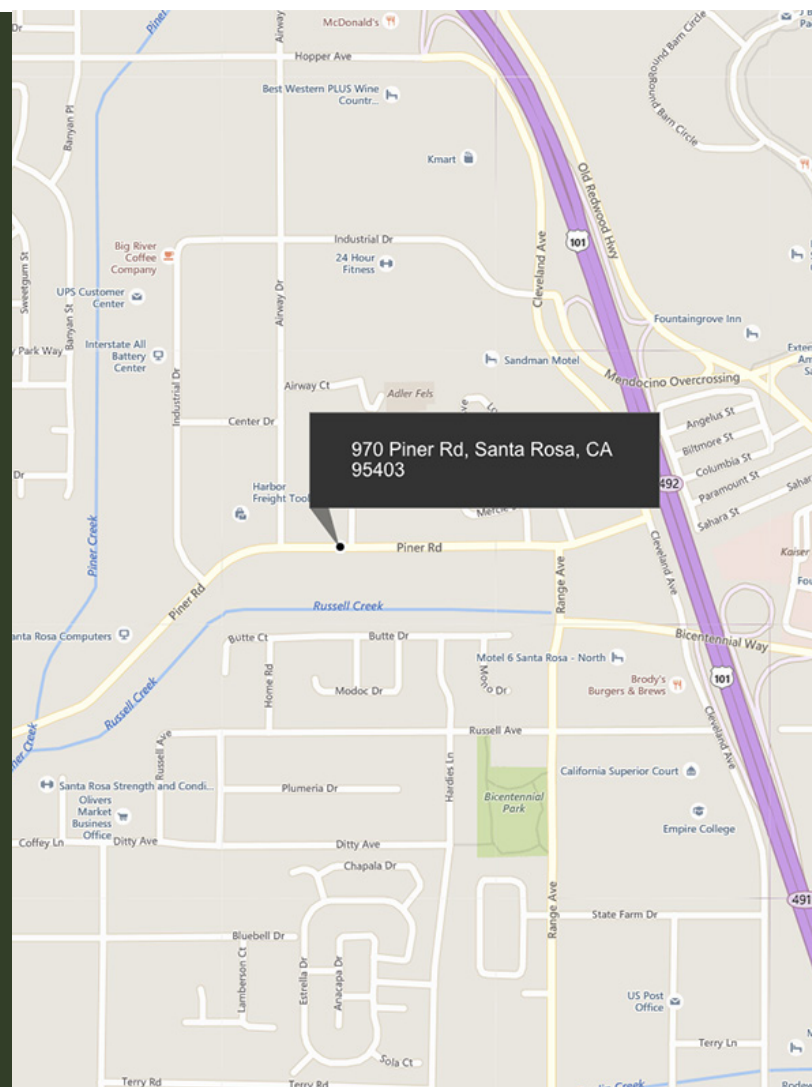
Directions to the Sonoma County Farm Bureau

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 Rd.



CALENDER NOTICES & EVENTS

MycoMysteries

Christian Schwarz

On May 22nd, at 7:00 PM, Christian Schwarz will speak on MycoMysteries, at the Sonoma County Farm Bureau.

MycoMysteries: A guide to what we don't know From hydrothermal vents to the insides of our brains, fungi are found everywhere. From microscopic single-celled organism to ancient gargantuan individuals, fungi span a large range of sizes. There is much that we have yet to learn about the identities, ecology, and physiology of fungi. We'll talk about some fascinating recent findings and ponder the questions that remain unanswered! I'll also talk about the IUCN Fungal Redlist meeting that I attended in Oregon at the end of April.

Christian Schwarz is a mushroom enthusiast and taxonomist and citizen science advocate from Santa Cruz, the land of milk (caps) and honey (mushrooms). He studied at UCSC, and now spends his time photographing, teaching about, and making scientific collections of macrofungi. He is coauthor of "Mushrooms of the Redwood

Coast", and is slowly building a mycoflora of Santa Cruz County (www.scmmycoflora.org). He also writes a blog called Notes of a Mycophile (www.christianfschwarz.com). Fungi satisfy his curiosity with their seemingly endless forms (from the grotesque to the bizarre to the sublime).

He has travelled in search of fungi throughout the United States, as well as central America, Indonesia, and Europe. Besides mushroom taxonomy citizen science, and mycofloristics, he's an excitable birder and tidepool investigator.

