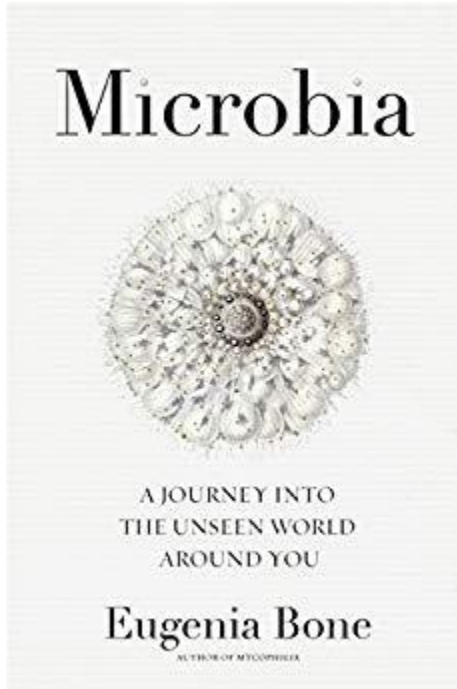


Spores Illustrated

COMA Hosts EUGENIA BONE

Winter/Spring 2019

Spores Illustrated is the newsletter of COMA, the Connecticut-Westchester Mycological Association.



From Eugenia Bone, the critically acclaimed author of *Mycophilia*, comes an approachable, highly personal look at our complex relationship with the microbial world.

“While researching her book about mushrooms, Eugenia Bone became fascinated with microbes—those life forms that are too small to see without a microscope. Specifically, she wanted to understand the microbes that lived inside other organisms like plants and people. But as she began

reading books, scholarly articles, blogs, and even attending an online course in an attempt to grasp the microbiology, she quickly realized she couldn’t do it alone.

That’s why she enrolled at Columbia University to study Ecology, Evolution, and Environmental Biology. Her stories about being a middle-aged mom embedded in undergrad college life are spot-on and hilarious. But more profoundly, when Bone went back to school she learned that biology is a vast conspiracy of microbes. Microbes invented living and as a result they are part of every aspect of every living thing. This popular science book takes the layman on a broad survey of the role of microbes in nature and illustrates their importance to the existence of *everything*: atmosphere, soil, plants, and us.”

On the evening of April 11 at the Friend’s Meeting Hall, COMA was graced with a presentation by Eugenia Bone, speaking about her latest work *Microbia*. As her way of breaking the ice she shared the fact that her first ever public mushroom talk to was to COMA in this very same room after the 2011 release of her highly praised “*Mycophila: Revelations from the Weird World of Mushrooms*”.

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With the help of a slide show Eugenia gave us the flavor of her new book, first explaining how her fascination with the Fungal Kingdom brought her to study Microbes. She shared two slogans, “Fungi is the bridge between the seen and unseen worlds” and “Mycology is the gateway to Microbiology”.

The comedic element of her story was the self-deprecating tale of a middle-aged mom going back to college after decades away. She chose to read us an excerpt from early in the book which started out “The moment I walked into Chemistry 101 and found my seat, I recognized this was not my tribe” and ended a few paragraphs later with “That’s when I realized I was in trouble”. In between those sentences she made some pithy observations of the new collegiate environment she found herself in. She also shared her initial pleasure in recycling her son’s old barely used notebooks until the moment when an erotic doodle she forgot to tear out caused her a huge embarrassment. When she displayed the offending doodle to the attendees the whole room was in stitches.

There was a detailed discussion of the populations of microbes in our bodies. Ms. Bone made good use of the analogy of the wolves in Yellowstone Park (wiped out and then recently re-introduced to the great benefit of the ecosystem) to explain the balance that needs to be maintained in our personal microbial population. She said to us that “there is no Good Bacteria or Bad Bacteria”, explaining that a proper balance of the microscopic life living within us keeps the bad guys in check. There was a surprisingly detailed (if mildly creepy) illustration of our gut environment and how things like antibiotics leave bare patches in the lining of our intestines that can be colonized by critters who make us sick.

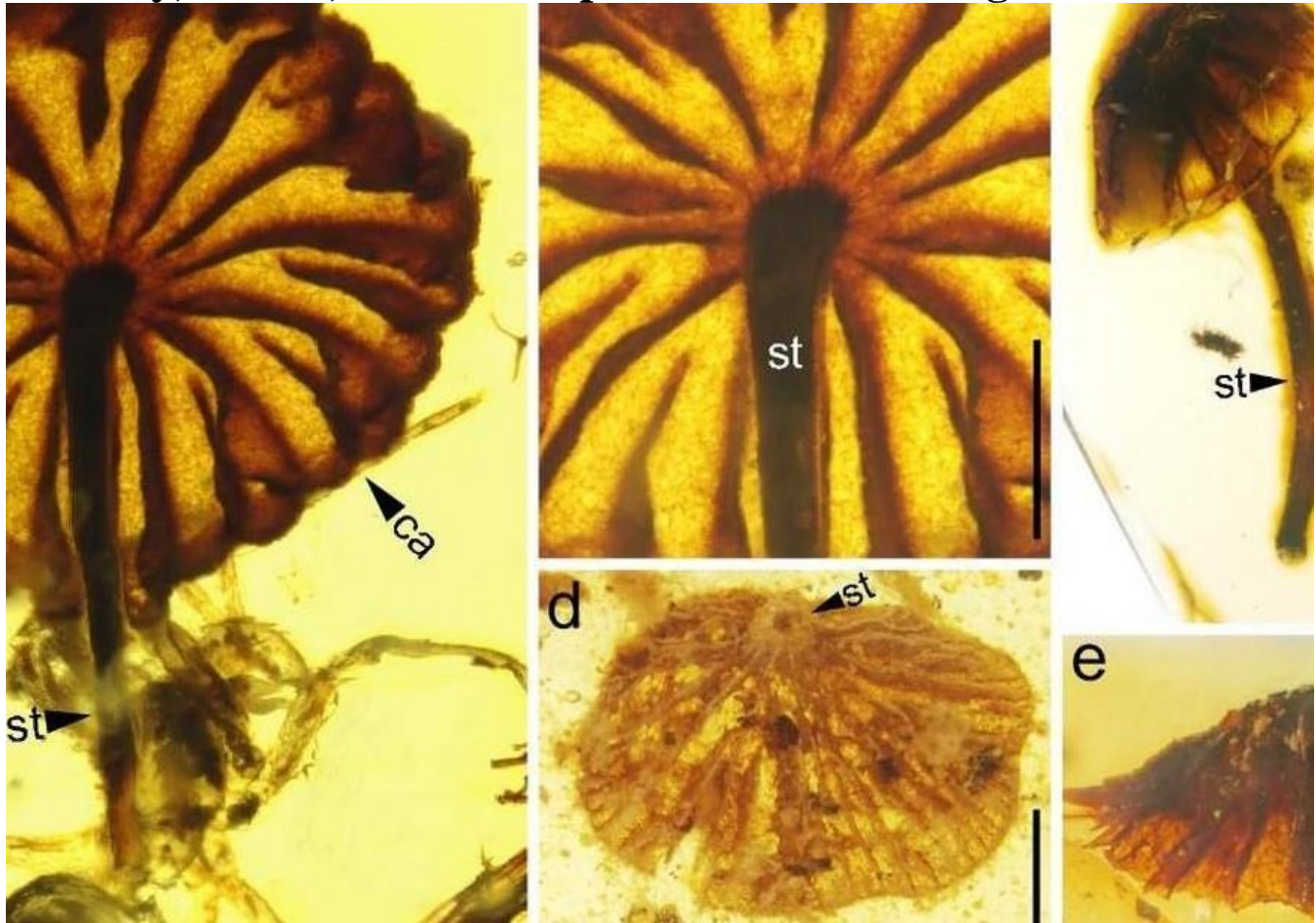
We were of course more familiar with the role that fungi networks in the soil play in aiding plant life but were educated by Ms. Bone that the teaming microbial life in every inch of soil plays an essential role in the existence of all plants.

Q & A followed the talk with the crowd clearly interested in knowing more about how this unseen world affects us and everything around us. The consensus afterwards was that this was one of our better talks and many of the attendees went home with an autographed book to read at their leisure.

-Tom Cascione

NEXT COMA Spring Program

Tuesday, June 4, 2019 / 7:30 pm / Friends Meeting House



Mushrooms in Amber and Copal – Elinoar Shavit

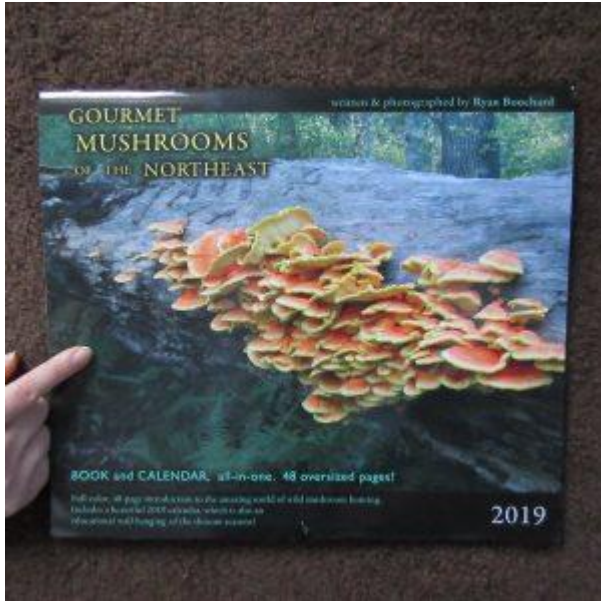
How might a fleshy mushroom survive intact for millions of years? It would fossilize in a lump of amber! This is a unique discovery of Elinoar Shavit and other seekers of fossil fungi. Former president of the New York Mycological Society, Elinoar's twin passions for gems and fungi coalesced in a global search for fossilized mushrooms. Her discoveries include mushrooms in red amber from Chiapas, Mexico and in unfossilized amber, or *copal*, from Colombia. Some mushroom-bearing copal potentially contains fungal DNA. Her findings are published in a recent issue (Vol. 11, No. 5) of the journal *Fungi*. This unusual topic in mycology is not to be missed!

Elinoar Shavit is a gemologist and mycologist. She has researched and published on medicinal mushrooms, desert truffles, mushroom toxicology, and ethnomycology. Elinoar contributed two chapters to the authoritative *Desert Truffles: Phylogeny, Physiology, Distribution and Domestication* (2014). She is past president of the NY Mycological Society, past chair of the NAMA Medicinal Mushrooms Committee, and contributing editor for the journal *Fungi*. She holds a Graduate Gemologist degree from the Gemological Institute of America.

April 30, 2019 / David Rose / Connecticut-Westchester Mycological Association (COMA)

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RYAN AND EMILY Introduce the EDUCALENDAR!



Greetings!

My partner Emily and I teach mushroom classes here in the southern New England area, and I have created a new sort of mushroom book...something which the more experienced club members will really enjoy, which was also created to interest a new generation in safely eating wild mushrooms AND learning about the science of mycology. It includes a directory of the Northeast region's mycological societies, and we hope you will gain new members when people seek out their own local mushroom club. We sold my book to stores all around New England last year, so the 2019 calendar is surely hanging on quite a few New England walls by now.

The book has a strange format, my own invention: the first half is a large and beautiful calendar, based on the mushroom seasons for 2019 (or any year, really) and the second half is an oversized book. Both halves are under the same book cover! It's not just a novelty, though--I carefully designed this "educalendar" to be the best introduction to mushroom hunting. It is oriented towards beginner-safe edibles, and discusses them fully, with many large photos...but always steers the reader towards learning more mycology, and recommends many other books. It contains plenty of tips and photos that would be of interest to experienced mushroomers as well.

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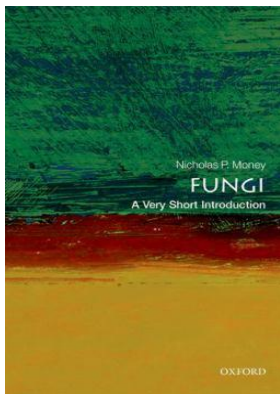
Would you please share this message? We are hoping that the current club members will either (A) want one for themselves; (B) buy a box of ten at 40% off with free shipping, to sell them, perhaps making some money at mushroom events; or (C) buy a couple copies as gifts. It can really help get reluctant friends and family through the door, by responsibly showing them what a fun and safe activity it is.

I attached two pics that are collages I made, showing examples of various pages from the book. Check it out, it's a unique item! Here's how to get it: it's available from the SHOP tab on www.mushroomhunting.org.

Thanks for sharing this message! Emily and I hope our work brings a lot more people to the world of mushrooms. --Ryan

**-Ryan T. Bouchard and Emily Schmidt
The Mushroom Hunting Foundation
401-595-6143**

BOOK REVIEW



Book Review: FUNGI, A Very Short Introduction (Nicholas P. Money, Oxford University Press)

The Oxford University Press offers a truly impressive list of subjects in their "Very Short Introduction" series, and one of the latest is FUNGI, by Nicholas Money, Professor of Botany, and Western Program Director at Miami University in Oxford, Ohio. He has studied fungi growth and reproduction for more than 30 years and has authored six books. This book is short in length (about 130 pages) and small in stature— a true "pocket size", easy to take along anywhere.

From the cover flap of the book: "The variety of the mycological world is far greater than most people imagine. Some fungi kill trees and ravage crops, and pathogenic fungi can infect animals and even humans. But Fungi also play crucial roles in ecosystems. They act as agents of wood decay in forest,

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and symbiotic relationships with mycorrhizal fungi are vital to many plants. In this *Very Short Introduction*, Nicholas P. Money explains the essential functions performed by fungi, and the importance of studying them to contain fungal diseases, and how fungi are being used in agriculture, biotechnology and medicine."

Mind you, this is not a field guide by any means, but for anyone who would like to gain a better understanding of how fungi actually function, without getting into lengthy scientific textbooks, this little book contains a wealth of information, and is inexpensive (\$11.95 or less) by any standards. (Also available in a "Kindle" edition.)

—Joe Brandt

THE MYSTERY GIFT AT THE END OF THE WORLD



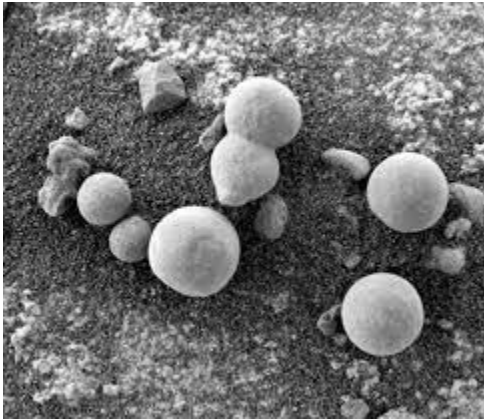
"My mother-in-law wouldn't tell us what our wedding gift would be — only that we'd have to travel to a forest, on an island, in Sweden, to receive it."

Copyright issues prevent a reprint of this short and whimsical piece about a treasured patch of Swedish Chanterelles that appeared in the NY Times Sunday Magazine on March 21, 2019 however you can find it at <https://www.nytimes.com/interactive/2019/03/21/.../mushrooms-sweden-island.html> or just search NY Times Magazine back issues. It will only take a moment to read and you'll smile.

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FUNGI ON MARS?



A study, published in the *Journal of Astrobiology and Space Science*, has made headlines with a theory that the familiar shapes (to us anyway) photographed by the NASA Rover on the Martian surface are in fact Fungi.

NASA has debunked the theory stating that they are merely mineral outcroppings.

Bloggers have suggested the possibility that the Rover itself has contaminated Mars with spores brought from Earth.

COMA TURNS TO iNaturalist

Photos and checklists of mushrooms found on COMA walks have been a part of the club's history and website (<https://www.pbase.com/comafungi>) for the past sixteen plus years. They've been a valuable resource in figuring out what mushrooms to search for and when, plus a way to look nostalgically at past treasures and to see what your fellow members looked like with a bit more hair or a couple fewer pounds. Unfortunately, records for the past few years have been sparse and it is time to bring in some help: iNaturalist.

iNaturalist is a free website and app produced by the California Academy of Sciences and National Geographic. It is easy to use, assists in identifying living creatures of all sorts, and keeps track of your findings - *all by simply taking a picture and uploading it with the click of a couple buttons*. Importantly, it also hosts projects, such as the newly-created COMAfungi collection.

Beginning with our first walk on April 27, 2019, we started adding to our group's history by uploading our individual photos from club walks with your suspected - or iNaturalist's suggested - ID. The identification feature is a great confidence booster for new mushroomers or anyone who feels a bit rusty. It is fairly accurate on its own thanks to its algorithm that tries to match your photo with known records of similar species. Your uploaded records can then be viewed on the COMAfungi project page at www.iNaturalist.org.

Each record includes the location, picture, ID with confidence level, date, and any notes you'd like to include. Other iNaturalist users can help with identifications from the comfort of their couches or you can use the website to see what your fellow mushroomers have been up to - it's a great way to wean yourself off of Facebook! For example, as of publication there are already thousands of Morel sightings for 2019 and, not surprising to those who know him from our shared passion, the current top observer is John Plischke with almost a thousand Morel sightings ID'ed.

What to do next:

1. Visit inaturalist.org and create a user account following the instructions on the webpage.
2. From the header of the iNaturalist homepage, click **Community** and **Project**.
3. Type COMAfungi in the project search bar, then **Join** the project.
4. On your phone, use the iTunes store or Google Play to install the iNaturalist app. Login with the credentials used above.

5. Open the app and create an observation by clicking the '+' button. Take a clear photo of the organism. You can add multiple photos: for mushrooms always take a picture of the top and underside of the cap.
6. Review the details of your observation, suggesting an ID if you think you know what it is. If it is a mushroom from a COMA walk, remember to "Add to Project" and click the box to COMAfungi before clicking the "✓" button to upload your find. That's it!

Cautionary Note: Never rely solely on computer identification of wild edibles. Confirmation by habitat, spore print and hands-on ID confirmation by experienced foragers should precede anything being consumed.



-Taro Iketa

Useful Tips for Finding Morels



Morel mushrooms are showing up where we live. Are you ready? Here are tips to help you score some elusive morel mushrooms.

When you're hot you're hot and when you're not, you're not. The temperature must be right

Morels like it when it starts to get around 60 degrees and above during the day, and night temperatures hover around 40 degrees. You can get yourself a thermometer and check the temperature of the soil where you hunt (you can use a digital cooking thermometer or even an old rectal model-whatever makes you happy-but don't put it back in the medicine cabinet OK). Morels start popping when the earth gets between 45 degrees and 50 degrees.

Location, location, location. The sunny side of the hill

The side of a hill that gets more sun will get warmer before the other side. That warmer side is where morels start showing up first. Check south-facing sun kissed slopes early in the season.

Learn your trees (and love your mushrooms)

Morels like their favorite trees. To Morels the Elm is king. Most folks have real trouble getting a tree ID without leaves but a young elm (Old Elms are near extinct but new growth gets to adolescence before the bugs infect them with deadly sac fungi) has a rough, deeply and irregularly ridged bark that is actually squishy like Styrofoam. Squeeze a sapling that fits the description and if it gives, it's an Elm. Ash, poplar, tulip and apple trees also call to morels.

Dead Elm trees are the most likely morel habitat with fruiting continuing long after the tree is dropping its bark. Find some and your chances of finding morels go way up.

ELM

WINGED ELM

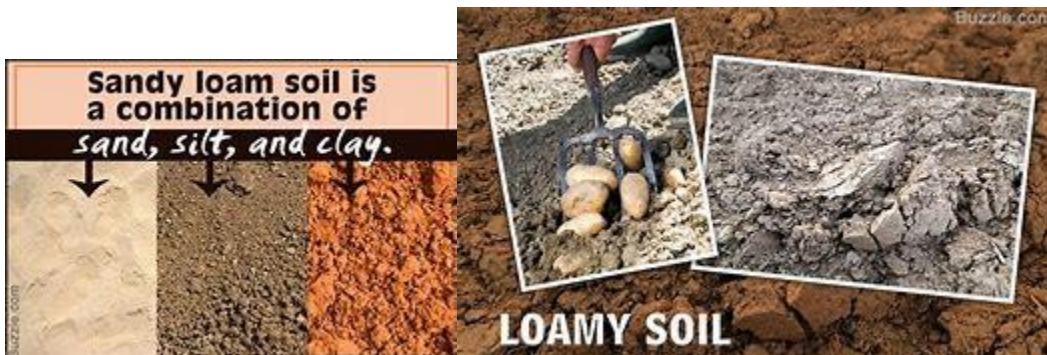
TULIP-POPLAR



Ash, Tulip and Poplar all also have ridged bark (and all have promise as morel habitat) but each is more symmetrical without the meandering broken lines that identify the elm.

The Good Earth

Morels favor a nice loamy soil. Loamy soil is what you might find in a riverbed or creek bottom. It's well-drained, moist but not wet, has a mix of clay, sand, decaying matter, calcium and/or lime. On some gardening sites they claim that loamy soil has a neutral PH (which can't be universal in different areas of the forest so I doubt it) and another fun morel fact is that they thrive in alkaline environments (High PH).



Bust a move or burn baby burn

Disturbed earth like bulldozer tracks or flood paths seem to sprout morels. Out West forest fires are legendary for bringing out hordes of Morels pushing through the ashes. The popular theory about the fire sites is that the morels are triggered by catastrophe to launch spores before their food source is exhausted. Maybe something similar happens when the ground gets churned up. Whatever the reason it pays to look over anywhere the habitat had a recent upheaval.

Still I wonder, Who'll stop the rain

A nice spring rain can be just the ticket for getting morels to pop. If the temperatures are in the right range (see above) and you get a good soaking rain, mark the next couple of days as prime morel hunting.

If at first you don't succeed, try, try again

Folklore to the contrary, morels don't come up overnight. The growth cycle of a morel from NOT ("Dude-ain't nothin to see here") to ROT ("Ugh, the bugs got this one") is two to three weeks. A half inch baby morel invisible in the duff could be a 2 inch keeper in a week or a 4 inch handful the following week. It's worth a second look.

Happy Hunting, -Tom Cascione

ECO ALERT



NEW— For Our Environmentally-Conscious Friends!

I don't know about you, but it just gets my goat when I wind up throwing away plastic items that can't be recycled, and there is one common household item that everyone has. They are (ugh) "disposable", and made primarily from (non-recyclable) *plastic*. In fact, many of you probably have a (used) collection of these from months (or even years) past, just waiting to be put to use for some sort of specialized cleaning project—

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but replacing them every few months or so results in more than you know what to do with, and as a result, these wind up in a landfill, where they'll stay halfway to forever. (Even when the stuff eventually breaks down, the little plastic "micro-beads" get into everything!) Furthermore, the packaging they come in isn't exactly environmentally-friendly, either. Could we do without them? Hardly. And although many of us would gladly make use of an alternative, there just aren't any available for an even *remotely* reasonable price. Until now. What am I talking about? (You're gonna love this.) Your TOOTHBRUSH!



So— my discovery-of-the-month is a company called "Zero Waste Cartel" (www.zerowastecartel.com), located in Miami, Florida. Among some of the nice things they offer (including color-coded mesh bags) they now carry *bamboo toothbrushes* that come in recycled cardboard boxes! And they're great! I recently received my order of 10 toothbrushes (5 beige, 5 brown) for less than \$15.00— *including shipping*. I can assure you that this is not one of those "If it sounds too good to be true, it probably is" situations. I was actually skeptical, but the issue with disposable plastic toothbrushes has bothered me for a very long time, and when I noticed these, I thought that for less than \$15, I'd take a risk. Furthermore, the bristles are soft enough that if you wanted to use one of these for a delicate mushroom-cleaning chore, it should work beautifully! (I'll be testing this theory in a few months.)

I've had multiple communications back & forth with the company and have told them about how supportive the mycological community is of all things that are environmentally friendly. As a result (and as a "thank you" for me endorsing the

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company and its products), I have secured a special code ("JOESENTME"), which will get you a 10% discount off all orders. (If you contact them, tell 'em *Joe sent ya!*)

Disclaimer: I have no ties to this company *whatsoever*. It just seems to me that whatever I can do to help the environment (no matter how small) is a positive thing and a step in the right direction.

—Joe Brandt



REQUEST FROM NAMA

We are looking for NAMA members to work on *The Mycophile*. It's an exciting time to join the team: we will be rolling out a new design and you would be working with skilled writers, photographers, and copy editors. Please contact President Barbara Ching (laetiporous@gmail.com) and Executive Secretary Bruch Reed (bruchreed@gmail.com) about your interests and skills!

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ABOUT NAMA

The **North American Mycological Association (NAMA)** is a 501(c)(3) nonprofit organization with 80 affiliated clubs and over 1,500 members. **NAMA** is committed to the promotion of scientific and educational activities related to fungi.

As a member of any one of the other 80 N.A. associated clubs (Including COMA and all the NY and CT clubs we sometimes foray with), you are eligible to also become a member of **NAMA**, the **North American Mycological Association (NAMA)** at a reduced annual rate of \$25.

COMA – Scholarships

Sylvia Stein Scholarship

- The total 2018 Sylvia Stein scholarship fund is \$1,500 as voted on by the COMA Board. The funds come out of COMA's operating budget.
- Individual scholarship awards will not exceed \$300
- Applications will be received on a rolling basis
- Only mycology-related events or projects are eligible for consideration
- Applicant must be a current member of COMA for at least one year
- Preference will be given to events held in the Northeast
- Events must be no more than 12 months after the application submission date
- Recipients are expected to lead one COMA walk
- Recipients are expected to submit an article to COMA's quarterly newsletter *Spores Illustrated* to share their experience
- COMA does not assume liability for activities associated with this scholarship

Ursula Hoffmann Scholarship

- This scholarship was established in 2018 and is funded by the donation of \$6,000 by an anonymous benefactor to be used to support individuals' attendance at the annual COMA Clark Rogerson Foray
- The scholarship will cover the full registration fee for the Clark Rogerson Foray – this includes housing and meals
- Applicants can opt to attend the full foray, a single over-night stay, or as a day visitor. The scholarship will cover whatever option the applicant chooses
- Recipients are expected to provide assistance in the sorting room during the foray
- Applicant must be a current member of COMA at the time of application
- An applicant's personal financial situation is neither a requirement for eligibility nor a factor in scholarship determination
- COMA does not assume liability for activities associated with this scholarship



MESSAGE FROM THE PRESIDENT

Greetings—

Breeze it. Buzz it. *Easy* does it.

Greetings and salutations! While we're awaiting our first weekend walks and the fungal things that come with them, I would like to take a mycological moment to offer a gentle reminder to everyone about fungal courtesy in the field, as there is a point of etiquette that sometimes gets overlooked in our mad dash for mushrooms. Sites that are on our schedule are strictly off-limits for two weeks prior to walks, with the exception of the walk leader's option to check paths, trail markers and terrain, to assure a safe passage and reliable route. The picking of mushrooms —*any* mushrooms— at the site of a walk is a most definite "no-no", from two weeks to one *minute* before a walk. Sometimes (particularly if you've arrived early) it's difficult to restrain yourself, but in the interest of all our wonderful club members and new guests, please, *please* practice a small bit of fungal courtesy, and wait until the walk actually begins before attempting to satisfy the urge to pick. Remember, it's not a contest to see who can find the most mushrooms. The only prize awarded to "earlybirds" who want to get a head start is the *booby prize*. If you have arrived at a walk early, by all means take

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a stroll, or be the self-appointed "greeter" for the club, but please do not —under threat of encountering a suddenly surly walk leader— pick mushrooms prematurely. The penalty for such a dastardly deed may be the dreaded Flying Fickle Fungal Finger (or is it the Fungal Fickle Flying Finger?) award, which no mycophile in their right (or left) mind would deign to earn.

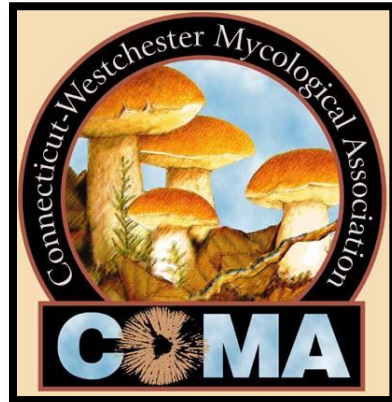
I would also like to remind everyone that if, by some chance, you manage to be the first to stumble upon a mother lode of mushrooms, COMA walks are just that: **COMA** walks, not private outings— and as such, we believe in sharing the bounty. "Sharing is caring", and we care enough to share.

Another cool thing about COMA (besides the wonderful weekend walks) are the special events, which we have scheduled throughout the season. These begin with Mushroom University, the tail end of which overlaps the start of our excellent evening programs, which begin just prior to our scheduled weekend walks. (We may even have a few unscheduled "pop-up" walks— watch for email notices!) Our activities for the year are generally capped off with a gala Banquet in mid-November, but the "crown jewel" of our special events is of course, the *Clark Rogerson Foray*, which will once again be held over the Labor Day Weekend. Last year, we reached maximum overnight capacity for the facility (Camp Hemlocks, in Hebron, CT) during the week prior to the foray, so this year, with the camp tightening their regulations concerning advance notice of overnight accommodations, I would implore anyone who is considering joining the festivities to sign up *as soon as registration opens* next month. Members will receive notice in advance, and (other than generic postings in the "Calendar" pages of both *Mushroom The Journal* and *Fungi* magazines) surrounding clubs will not receive notice of open registration until 10 days after COMA members have been notified. I would like to remind members that there are multiple scholarships available for the foray; anyone interested may apply through the COMA website (www.comafungi.org) at any time.

Be ready, Y'all. Now is the time to be sure that you have all your gear in good condition— because we're going to be out there finding fantastic fungi in short order. I'm not sure about how much stompin' and clickin' we'll be doing, but I *can* assure you that there will be plenty of findin' and pickin'.

Your Humble Servant,
Joe Brandt

**COMA officers and
committee members
are:**



<i>President</i>	Joe Brandt (jlbc@hotmail.com)
<i>Vice-president</i>	Taro letaka (taro@ietaka.com)
<i>Secretary</i>	Julie O'Grady (Julieog@optonline.net)
<i>Treasurer</i>	Don Shernoff (donshernoff@yahoo.com)
<i>Membership</i>	Carol McLeod (mcleod6@optonline.net)
<i>Publicity</i>	Jen Keane (nykeane@aol.com)
<i>e-Media</i>	Boris Martinov (comawebmaster@comafungi.org)
<i>Walks</i>	Taro letaka
<i>Spores Illustrated</i>	Tom Cascione (tcascione@aol.com)
<i>Rogerson Foray</i>	Don Shernoff, Diane Alden (daldenpc@verizon.net), Carol McLeod, Taro letaka, Joe & Kathy Brandt
<i>Scholarships</i>	Sue Rose (chair (susanmbrose@gmail.com), Joe & Kathy Brandt
<i>Programs</i>	David Rose (tomashunders@gmail.com), Rena Wertzer, Joe Brandt
<i>Mushroom U.</i>	Carol McLeod
<i>Rules</i>	Morris Palmer (morrsonian@msn.com)
<i>Hospitality</i>	Joe & Kathy Brandt
<i>Past presidents</i>	Sandy Sheine, Morris Palmer, David Rose, Dianna Smith, Taro letaka

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