Mycena News

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Speaking at March 18 MSSF Meeting



Nathan Wilson

Mycological Contributions Through the "Mushroom Observer" Website

Nathan's interest in fungi started when he was 10 years old. Since then he has been an active in several mycological societies including FFSC and NAMA.

An avid field mycologist, Nathan is a photographer, artist, and computer expert.

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MycoDigest: Getting Up to Speed with Mycology

Dimitar Bojantchev

Okay, I'm the "Substitute" this month—filling in for the crew of esteemed scientists who usually grace this column with insightful commentary on profound topics in mycology and related fields. I will use this lull in esoterica to suggest how and why the ordinary collector can break into a new level of advanced mycology that can be very fulfilling. At forays and other mushroom-related gatherings, people often ask me how I went about learning "all those names." They're also quite surprised that I've been involved in this pursuit for far shorter than most. This article is a compilation of many answers and suggestions that I have given in the past few months.

But before we dwell on the "how" of getting up to speed with mushroom knowledge, let's quickly address the "why." While most of the suggestions here are targeted at those who treat mycology from a more scientific angle, it must be emphasized that upgraded knowledge can bring rewards even to those who collect strictly for the table. First, it is safer: collectors can assuredly navigate around some of the dangerous pitfalls. Second, one can significantly broaden



Hygrocybe miniata. Photo by Dimitar Bojantchev

his or her gastronomic repertoire of wild fungi. Recently I met someone in the forest who was bypassing various highly rated edibles and collected only the slippery jacks; his explanation was that these were the only mushrooms that he learned to recognize in over 20 years of roaming the forests. I know of many such folks who hold back, sometimes unwilling to broaden their horizons just a bit. My motto is that, "It's okay to be afraid of mushrooms, but not okay to be afraid to learn about them." The third benefit of broadened knowledge is that

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MycoDigest is a section of *Mycena News* dedicated to the scientific review of mycological information.

PRESIDENT'S POST

As a state employee (I'm a lecturer at San Francisco State University), I know very well the condition of the state budget. The University is looking at perhaps a 20% decrease in classes—a truly sad state of affairs.

Also very sad and of concern to us are the proposed cuts to our State Parks budget. Forty-eight parks are on a closure list according to Governor Schwarzenegger's Proposed Budget. On the list are Tomales Bay State Park and Armstrong Redwoods State Reserve, two parks that allow some mushroom collecting. For a complete list of proposed closures, go to www.calparks.com, the California State Parks Foundation website. You can find a link to the Save Our State Parks campaign there, as well. Please consider contacting your representatives to protest these closures.

Speaking of State Parks, on February 16 we joined the Sonoma Mycological Association (SOMA) for a cleanup day at Salt Point State Park. Nearly 40 volunteers collected over 600 pounds of garbage in the park, mostly along Highway 1, followed by a scrumptious potluck lunch. This is the second cleanup we've had there in recent years (thanks to Mark Lockaby). These kinds of events go a long way toward good relations with the rangers and the other staff of this popular mushroom-hunting destination.

Bill Hansen, president of SOMA, is keen to keep up these gestures of goodwill. Some ideas include trail maintenance (requiring safety training) and educational efforts. One of the most frustrating things for the rangers there are people who disregard ethical collecting practices, such as leaving piles of mushroom scraps along the trail and digging up the duff layer in search of bolete buttons without replacing it (not to mention collecting more than is allowed by their regulations). I think we could make a difference in their lovely forest and pay back some of our excellent mushroom-hunting experiences at Salt Point. Watch for these opportunities in the near future.

Good hunting!

~J.R. Blair

ANNOUNCEMENTS

Morel Foray at San Jose Family Camp: May 2-4,2008

Are you ready for morel season? If you read Norm Andresen's article "Finding Morels is Easy" in the April, 2007 issue of *Mycena News*, you'll know the San Jose Family Camp Morel Foray is a good place to start. It fits the right elevation at the right time. This year the San Jose Family Camp Morel Foray starts on Friday evening, May 2, and ends at noon, Sunday, May 4, 2008. Now is your chance to find morels, false morels, corals, and other spring mushrooms—and at times, even spring boletes.

San Jose Family Camp is located in the heart of the Sierras just off Highway 120 near the West gate of Yosemite National Park. The Stanislaus National Forest and the Middle Fork of the Tuolumne River serve as a scenic backdrop to the mountain playground and home to morels and other spring mushrooms.

The Foray starts with dinner on Friday evening and ends with lunch on Sunday. A total of six meals will be served by staff of the Family Camp. Meals are served in the dining hall complex overlooking the Tuolumne River. Registrants will be housed in wood frame and canvas covered tent-cabins with electric lights. Each cabin contains cots with mattresses, but no bedding. Each registrant should bring his or her own sleeping bag or bedding. All restrooms with hot showers are just a short walk from any cabin. Group Leaders are available for forays on Saturday. That evening, a short program will be held after dinner.

The cost for the foray weekend, including lodging and meals, is \$121 for members, \$141 for non-members and \$70 for children. For further information, contact Tom Sasaki at 415-776-0791 or e-mail sasakitom@sbcglobal.net. To register, make checks out to MSSF and send to Tom Sasaki, 1506 Lyon St, San Francisco, CA 94115. Upon registration, you will be sent directions to get to San Jose Family Camp and a map of the camp grounds. Don't wait until the last minute to register, as Tom may not be around in mid-April and registration ends April 25. See you there!



What's Bookin?



N ew and used fungi-related books will be available for sale prior to the general meeting from 7 to 8pm downstairs in the Randall Museum. There are no new books to announce, but I have acquired several new "used" books that have not been offered before. I will also be offering for sale some really cool little mushroom collecting bags for \$5 that are very portable and lightweight. As always, MSSF members receive a 10% discount on all new books. See you all at the meeting or maybe in the woods?

Curt Haney MSSF Book Sales

MycoDigest continued

it leads to a much better collecting experience. The ability to find mushrooms increases dramatically with an improved understanding of their habitat and ecology requirements.

In contrast to mycophagy, the force driving the amateur mycologist is derived from an "overpowering curiosity." The root of the word "amateur" is "love," in our case, manifested as an insatiable desire to know more about the fungal organisms surrounding us. While not entirely a stranger to mycophagy and oenophilia, the amateur mycologist is far more concerned with pure knowledge and tends to socialize, in person or online, with similarly-minded souls who, too, can spend hours in front of a microscope chasing the elusive name of some utterly inconsequential mushroom.

Mycologically speaking, California is a "developing state"—a treasure cove of species not yet described. Entire genera remain uncharted locally. This is wonderful news to the budding naturalist, because a lot of interesting and rewarding work remains to be done. But in order to uncover and document those fungal gems, a lot of material needs to be moved. In that respect, the informed collector plays an important role in filtering the flow of collections to the major herbariums and providing critical macro and habitat descriptions.

Now that I've covered the "whys" of learning more about our fungal resources, let's address a few "hows." The number one requirement for aspiring informed collectors is to develop a deeper understanding of the genera of higher fungi. Many of the keys in the field guys are rather superficial in their treatment of the important delineating features. They can work well in some limited situations, but nothing beats stronger fundamental knowledge. That's also the approach taken by institutions of higher learning—I was impressed by a couple of students from a major local university who came up to speed in less than 2 months by following a rigorous learning approach. This kind of learning can also be achieved by an unaffiliated individual. If one spends the time to learn just one genus per day, or even per week, then—supported by some field experience—that person will soon jump far ahead of the pack in appreciation of what he or she collects.



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Past issues of *Mycena News* can be read on-line at www.mssf.org.

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A Beginners Guide to Cameras and Equipment for Shooting Mushrooms, Part 2

Peter G. Werner

Last month, I wrote about recommendations for both minidigital cameras and SLRs. While the camera itself is the basis for good mushroom photography, the right camera accessories are of equal importance. I also want to cover informational sources about photography, which you'll need to get the most out of your camera setup.

The main constant in shooting mushrooms is low light conditions. Not only do mushrooms often grow in conditions where there is little light, but high magnification (as you get with macro lenses) lets even a smaller amount of light through the lens. There are two solutions to this, both of which you'll probably need. The first is flash (to throw additional light on the subject), and the second is a long exposure time. Because a camera cannot be held perfectly steady for more than a fraction of a second, this necessitates the use of a tripod or other stabilizing device.

Flash

Flash is a necessary part of mushroom photography for the low-light conditions mentioned above, but also often necessary when there is plenty of available light. This is because, due to the shape of a mushroom, the underside is often heavily shaded, so "fill flash" serves as a way to even out the illumination above and below a mushroom.

Most cameras come with a built-in flash unit; however, builtin flash is inflexible, in the wrong location for mushroom photography, and generally not up to the task. It's very easy to spot horrible looking mushroom photos shot this way blown-out on top and totally dark below. I've actually manages to work around this on a few occasions by holding my Coolpix upside-down, but shooting a photograph this way is less-than easy!

Off-camera flash units are available for high-end point-andshoot digital cameras and for SLRs. I use a Sigma EF-500 DG off-camera flash and highly recommend it. Note that it comes in different models depending on what camera system you're using, so there's one specific to Canon EOS, another for Nikon, and even one that's specific to Nikon Coolpix.

Another option you might consider is a ring flash unit. There are certain tricks to getting really good illumination with a ring flash (mainly involving covering select parts of the ring with something like aluminum foil or thick paper to more selectively illuminate the mushroom), but you can get some good lighting this way. This is a particularly good option for older Nikon Coolpix models, as a very inexpensive ring unit, the Nikon Cool Light, was made for these. (I'm not sure about its compatibility with the Coolpix S10, however.)

Tripods

It is actually possible to photograph mushrooms entirely by hand using flash, but the mechanics of holding your camera and flash in proper position to get the ideal shot are often difficult. Also, getting background details in the photograph is in some cases better accomplished by a long exposure, even when you've adequately illuminated the mushroom itself with flash.

The subject of tripods and tripod accessories is a huge one, which I'll try and cover here without too much gory detail. And thankfully, there are cheap solutions that work well in many cases. If you want to shoot a mushroom from about ground level, often the best and fastest solution is to simply rest the camera on a beanbag or bag of rice. Another solution that works very well with a "swivel body" Nikon Coolpix camera is an ingenious one that Bolek Kuznik came up with: make a simple monopod with a wedge end that one can drive into the ground, then add a flexible clamp head with a camera mount on it. One simply attaches the camera to this setup, drives the spike into the ground in the appropriate position, and you're ready to go.

Using a camera in any position much higher than ground level is where things get tricky, because here one does need a real tripod; one that's sturdy and, at the same time, extremely flexible. I use a Gitzo Explorer, which has a movable central post that the camera rests on. One can get a camera into all kinds of weird positions using this tripod, though it takes some getting used to. (One description I've read describes it as "taming the octopus.") Uni-Loc tripods have a similar design, and are also a good choice.

The right choice of tripod head is something I've seen more electrons spilled on various photography forums than just about any other. Generally, inexpensive ball heads are not the most stable places for a camera to rest, and are often hard to position easily. The flip side is that really good geared heads or high-end ball heads that allow for precise work are not only expensive, but, in my experience, extremely large and heavy and an absolute boat anchor when it comes to doing practical field macro work. I use a Manfrotto 56 "3D" head, which, while not allowing for the same degree of fine adjustment as

Beginner's Guide continued

a good gear or ball head, is very cheap, lightweight, and, like the underlying Explorer tripod, movable into all sorts of odd configurations, as needed.

Another part of the tripod setup that may be useful with an SLR and macro lens setup is a macro slider. Basically, whenever you change focus with a macro lens, you also change magnification. Hence, to change focus while keeping magnification consistent, you need to be able to move the camera, often over very small distances. This is where the slider is very helpful.

Finally, any tripod setup benefits from being able to move your camera on and off very quickly. For this, a device called a quick release comes in very handy, with one part mounted on the tripod, and another on the camera. Manfrotto makes an inexpensive one that I've always found very adequate.

UV Filter

One accessory I forgot to mention in my last article (Part 1, published in the February 2008 *Mycena News*) is a UV filter. This is a simple, clear glass filter that you mount as the front element of your camera lens. The ostensible purpose is to keep out UV radiation that can fog one's photos; the real purpose, however, is protective. Quite simply, if you hit your lens against something and chip or break the glass, it's far less expensive to replace a \$20 filter than an entire lens or mini-cam.

Books and other sources of information

As of yet, there are no books specifically on techniques in mushroom photography—though both of Taylor Lockwood's books are wonderful documents of the possibilities of mushroom photography. There are, however, a number of books on macro photography and flower photography that are quite good. In fact, they probably go into more depth than you'll want, but are nevertheless worth a look. Here are some I recommend from my bookshelf:

Closeups in Nature by John Shaw

The Complete Guide to Close-Up and Macro Photography by Paul Harcourt Davies

Photographing Wildflowers by Craig and Nadine Blacklock *The Field Guide to Photographing Flowers* by Allen Rokach and Anne Millman

Many of these titles, and others like them, are in local libraries, so have a look there.

Also, a good introductory book on general digital photography is also highly recommended if you're totally new to photography. Classes in digital photography and Photoshop are *tremendously* helpful if you have time to take them. Other excellent sources of information are Internet photography forums and websites. There are scores of them on the web, covering all manner of cameras and specialized areas of photography. Two in particular that I highly recommend are www.photo.net, probably the best general photography site, and www.macrophotography.org, which is exactly as the name describes. Both of these have articles, forums, and places where people can post their photos for others to look at and critique. Both of these places have been an invaluable part of my (ongoing) photographic education, and I highly recommend them to all.

And, of course, one of the most important things of all is to read is your camera's owner's manual. A lot of people skip this and, as a result, don't even know how to do 90% of what their camera is capable of. Read it and get the most out of your camera!

Happy shooting! 🕸



Speaker continued

He earned his master's degree in computer science from UCSC, where his thesis was about using computers to identify biological species.

This interest in computers led Nathan to create several mushroom-related websites, including one on taxonomic changes for mushroom field guides, and in collaboration with Elio Schaechter, "A Mycological Voice From the Past," which celebrates an early work on *Phallus* by Hadrianus.

His current project, "Mushroom Observer" (http:// mushroomobserver.org), is a participatory website where anyone interested in mushrooms can record their own observations of mushrooms, upload photos, get unknowns identified, help others identify unknowns, and generally learn about mushrooms.

The Years of Magical Thinking

Bob Sommer

Every year I delude myself into believing that the coastal mushroom season is longer than it actually is. I anticipate after the first October rain and imagine that early February is an extension of January (it isn't). Hope overwhelms memory and past experience hides under the bed, emerging only after the third rain. The coastal mushroom season is December and January. I repeat, the coastal mushroom season is December and January. If we are blessed with early rains (note plural), November can be productive, but that is all.

From the standpoint of my academic specialty, mycophile psychology, I don't think the correct diagnosis for early anticipation and late false hope is rigidity or repetition compulsion. Call it magical thinking—the false belief that hoping for something will make it happen. If I seriously think fungi after the first rain, mushrooms will fruit and my basket will overflow.

Yes, miracles occur, but not often. Three weeks after the first 2007 rains, and still in November, there was a bumper crop of *edulis* at the coast, followed by abundant chanterelles. If I had allowed my logical brain to run things, I would have waited until December, and all the good varieties at Salt Point would have been picked over. I could still find edibles ignored by most pot hunters who don't appreciate the virtues of ____, ___, and especially ____ (did you think I'd mention them by name?), but the large meaty caps would be gone or buggy.

When I lived in Western Canada, I anticipated the fishing season in the same way. Confined indoors during the long winter months, I waited impatiently for the June opening date. By April and May, I'd be stir-crazy. Ice fishing had little appeal; I couldn't get excited about sitting huddled and cold, drinking hard liquor inside a tiny hut on a frozen lake. Instead I stayed home reading fishing magazines until I thought the winter ice had melted. I never learned to overcome the sense of anticipation that brought me prematurely to a snowy lakeshore trying to cast my line between floating pieces of ice.

Knowing when to start the year's mushroom season (there is no official starting date; perhaps it would reduce magical thinking if there were), depends on mycophile psychology. Risk takers head for the coast two days after the first rain; risk averse folks restrict foraging to the dependable months, deriving vicarious pleasure the rest of the year from Taylor Lockwood videos, coffee table books and past issues of *Mushroom the Journal*, and dreaming of mushroom cowboys lassoing nematodes and springtails. (I learned about the latter in the February issue of *Mycena News*; thank you Else.)

Morels have a season of their own. I have never viewed it as an extension of the productive mushroom months. First of all, you drive in the wrong direction, away from the cool green coast, through the endless housing tracts along the I-80 Corridor (formerly known as the Great Central Valley, the state's agricultural breadbasket), to traipse up and down the south side of charred hillsides in search of what resemble blackened pine cones. This seems more masochistic than magical. On the coast, if you didn't find the choice edibles, there were other interesting varieties to satisfy the senses—polypores, corals, amanitas, jellies. By contrast, if you didn't find morels in the foothills in May, there was nada, zip, except for lumps of char and a few tough *Leucopax* and snowmelt *Clitocybe*.

The 2007 mushroom season has ended. It is still too early to garden, but wildflowers are starting to appear. Maybe next year I can control my premature foraging disorder. I've seen TV ads for medications. 🕸

MycoDigest continued

Next, striving for a better understanding of seasonal and regional specifics will broaden one's ability to plan ahead and establish "best probable routes;" for exploration, the Pacific Northwest and Northern California, in particular, form a complicated maze of microclimates. Triangulating reports from various collectors, augmented by personal observations, are the foundation of that broader understanding. Mixing in the details of local topography and habitat is also extremely important when targeting a specific group of mushrooms, or to continue collecting during the low points of the season. The old adage: "If you don't go, you won't know," is undeniably true, but far greater mileage can be extracted with the injection of some educated guesswork.

The availability of certain tools and resources of the trade is a prerequisite to jumping to the next level in mycology. The microscope is clearly the most important such implement. The species of many genera can be differentiated only on the basis of the micro-morphological features that are hidden from the unarmed eye. In that respect, I recommend the maximum in optical microscopy—100X immersion oil objective. Cutting corners on that piece of equipment will limit one's ability to be effective, because there are a lot of micro-morphological features that require the highest resolution in order to be fully scrutinized. Then there are certain chemical reagents that are highly useful for diagnostic purposes. They have two general

MycoDigest continued

uses: macrochemical testing (observing color reactions on the surface or context of the fruiting bodies) and chemicals that dye the tissues (so that they can be viewed better under the microscope). With minor exceptions, most of these are easy to obtain. A word of caution—some of these chemicals are corrosive and hazardous. (The exhaustive list of reagents, their usage, and sources from which to obtain those merits a separate article.)

At a certain point, the maintenance of a private herbarium becomes a necessity, too. During the peak part of the season, all one can do is to preserve the more interesting collections for future study. In this way, the advanced amateur can spread the identification work year round, as well as furnish collections to the major institutions and researchers.

But all of the tools and observations are useless unless we secure

access to the most important resource—information. Advanced mycology demands access to information far beyond the scope of the ordinary field guide. Assembling a good personal library can be expensive, but it is an important goal for the amateur mycologist. Depending on individual research interests, there are many different sources of information on books and journals, but the Systematics page on www.mykoweb.com is a good first stop.

No matter how large your personal library, the volume of information that needs to be consulted far exceeds both our budget and storage constraints. Thus, we are extremely fortunate to live in an area with several distinguished universities that house major libraries. There's a plethora of books and journals going

back to the sacred scriptures of mycology from the nineteenth century. At the same time, the mountain of information available online is growing by leaps and bounds; www.jstor. org, for example, contains many magazines. (*Editor's note:* A subscription, however, is required; for free access, try logging on through your local library's website.) Beyond a certain level of experience, access to all issues of the major journals *Mycologia* and *Mycotaxon* is a must. There are countless other European magazines and publications, however access may be quite challenging. In that respect, the ability to deal with foreign languages in the context of mycology is very important. There are certain genera where the bulk of current developments are documented only in French, German, and Italian.

Invariably, advanced enthusiasts will come in contact with professional mycologists. These contacts offer an important opportunity for information exchange and further development. I have found that most pros are extremely helpful if one is sensible enough to do his or her homework prior to contacting them with questions.

Last but not least, the advanced mycology enthusiast is armed with a camera! Our interest is not just to understand, but to save a visual snapshot of the rich fungal flora of the state. In that respect, we also fill the gap left by researchers from previous generations who, primarily due to technological limitations, failed to leave sufficient iconography for many of the puzzling

species they described. The net result is that now, in addition to the well established site MykoWeb, two new, major sites have emerged recently-the cooperative-effort www. mushroomobserver.org and my own site, www. mushroomhobby.com. Ι believe that we have now built enough momentum to put California on the mycological map of the world, on par with the best that Europe can offer.

Yes, you too can join the ranks of amateur mycologists! Frankly, I find that it makes the foray experience far more fulfilling. If I was constrained strictly to collecting for the table, I'd be bored. Same few species,

over and over again, season after season.... Plus, there are so many times when edibles are just not available. But the forest never runs out of puzzling species and strange phenomena that can tickle our curiosity. When the fleshy fungi are gone, why not learn more about polypores? When that's not enough, the array of crust fungi seems endless. If not that, then one can learn more about local flora and fauna—trees, flowers, birds, etc. It's just a small part of the beauty that surrounds us. Wouldn't you like to know more about it? 🕸

Gomphus clavatus. Photo by Dimitar Bojantchev



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MSSF Calendar, March 2008

Monday, March 3, 2008, 7pm, Culinary Group Dinner.

Hall of Flowers, Golden Gate Park, 9th and Lincoln, SF. Reservations are required. For this month, make them with Lisa Bacon at (707) 765-9085 or lisa.bacon@comcast.net no later than Friday, February 29 (leap, leap). As the Hall of Flowers does not provide tableware, you must bring your own, as well as a beverage and an appetizer to share. We will feature salmon this dinner. Our next dinner meeting is April 7.

Tuesday, March 18, 2008. MSSF General Meeting. Randall Museum. 7pm, mushroom identification and refreshments provided by the Hospitality Committee. 8pm, Nathan Wilson will present **Mycological Contributions Through the "Mushroom Observer" Website.** **Friday–Sunday, May 2–4, 2008, San Jose Family Camp Morel Foray**. Join leader-led groups to hunt for morels and other spring mushrooms in the Sierras near Yosemite National Park. Lodging and all meals are included with registration. To register, write check to MSSF and send to Tom Sasaki, 1506 Lyon St., San Francisco, CA 94115. Fee for members is \$121, for non-members is \$141, and each child is \$70. Directions and map of camp will be sent on registration. (See announcement on page 2)

> Deadline for the April 2008 issue of *Mycena News* is March 15. Please send your articles, calendar items, and other information to: mycenanews@mssf.org