Mycena News



The Mycological Society of San Francisco September 2008, vol. 59:06

Speaker for the Sept 16 MSSF Meeting



Ken Litchfield

The Wonderful World
of Mushroom Cultivation

Ken Litchfield will be discussing the easiest methods and species to get started with in your own kitchen or garden or park, including mulch mushrooms, hydrogen peroxide straw cultures, log plugged raised beds, and truffles trees. He will show some

Continued on page 3

Inside This Issue...

MycoDigest1
Speaker for September 16, 20081
President's Post
Announcements2
Morel Hunting with MSSF4
MSSF Culinary Group6
Emotional Appeal7
MSSF September Calendar8

MycoDigest:

Hey, Man, Do Any Weraroa Grow Around Here?

Peter G. Werner

One of the most common complaints that amateur mycologists have about academic mycology is the frequency of changes in the scientific names of fungi. These changes reflect the state of flux that the taxonomy of organisms of all types is undergoing due to advances in molecular phylogenetics. However, they also reflect applications of the rules of nomenclature that have been devised to make sure scientific names of organisms reflect the actual evolutionary relationships rather than arbitrary categories. Some recent discoveries concerning relationships among genera in the Strophariaceae underline how a few discoveries can set off a cascade of renaming genera and species.

The major guideline for modern taxonomy that classification into a particular group should reflect real descent from a common ancestor. A real taxonomic group should include all the descendents of a single ancestral species, and no species that are not descended from that ancestor. Such a group (or "clade," in phylogenetic terminology) is said to be "monophyletic." Other groupings that include some, but not all, descendents of a common ancestor, or groups of species that do not include a common ancestor



Funny, you don't look like sisters! *Psilocybe subae-ruginosa* (left) and *Weraroa novaezelandiae* (right). Photos by Alan Rockefeller, courtesy of mushroomobserver.org

for all members, are viewed as artificial and do not reflect evolutionary reality.

Ideally, the notion that the name of an organism should reflect real monophyletic clades seems like a simple enough rule. However, scientific taxonomy by its very nature is something that generates lots of names, and this is where it gets

Continued on page 5

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

PRESIDENT'S POST

I hope you have enjoyed a great summer. Welcome back to another mushroom season!

As many of you already know, there has been a change in the leadership of MSSF. Our treasurer of two years, Lisa Bacon, has stepped down, with Henry Shaw taking over for her. And, Mike Wood, our longtime webmaster, has passed the baton to Dave Bell.

Lisa, who has been a member of the Sonoma Mycological Association for many years, joined MSSF in order to become our treasurer in 2006. Her timely appearance filled a huge gap in our council—not only is it required to have a treasurer, it is vital to have one who is skilled and comfortable with the job. And Lisa has more than fulfilled that requirement. Her outstanding organizational skills, along with her ability to work a spreadsheet, have made her the perfect person for the job. In addition, she consistently went above and beyond the job description, taking on extra responsibilities on a regular basis. She has been a valuable member of the leadership and, in particular, very helpful to me as president.

Mike has been a member of MSSF forever (well, nearly—he joined in 1981). In 1995 he initiated and designed our website, www.mssf.org, and has maintained it ever since. And he has done so with remarkable skill and consistency. In addition, Mike set up our Yahoo Groups discussion forum and an e-mail system for the officers and committee chairs. Many of us over the years have relied extensively on his keen mind for all things technical. However, in my opinion, Mike's greatest accomplishment is that he is one of the most knowledgeable amateur mycologists in the country. His grasp of the taxonomy of California (and beyond) mushrooms is extraordinary, surpassing many professional mycologists. Just look at his "other" website, www.mykoweb.com, to see the evidence of that. We are lucky to have him in our Society.

We will miss their energy and insights at council meetings, wish them the best of luck in their future endeavors, and hope they both will continue to participate in Society affairs. Thank you, Mike, and thank you, Lisa.

~J.R.

ANNOUNCEMENTS

REMEMBERING RICHARD DOELL

A member since 1994, Richard Doell was a prime mover in providing, with his wife Janet and members of the Lichen Society, a display at our Fungus Fairs for many years. There was always a steady crowd surrounding the material on view, and awaiting a turn at the microscopes. We mushroom people eventually developed a growing interest in those lovely, tiny, colorful fungi (especially when the ground is dry).

Richard, an expert in photographing lichen, published a hippocket field guide that displays their beauty for all to see, so check it out at the next Fungus Fair. Thanks and farewell, Richard.

MSSF LIBRARY AT THE RANDALL MUSEUM

We are open from 7–8pm, before MSSF General Meetings, and we hope to highlight the topic of the speaker for the evening. Come scan our shelves, we've got lots of great books! Books taken out over the summer are now DUE. See you Tuesday, September 16th.

MSSF IN BEST OF THE BAY 2008

The SF Bay Guardian awarded MSSF the Best Shroomin' award in this year's Best of the Bay issue. Here's to over 50 years of mushroom love in the Bay Area! Check out http://www.sfbg.com/bob/2008/classics.php for the full write-up.

WILD ABOUT MUSHROOMS FORAYS

The Annual Wild About Mushrooms Company's *Oregon Cascades Foray* is scheduled for October 12–16. Also, a new *Oregon Coast Foray* is scheduled for the weekend of October 18–19. Both forays will be led by David Campbell. Contact Charmoon Richardson for event information and registration at (707) 829-2063 or charmoon@sonic.net.

MUSHROOMS IN YOUR FLOWER POTS?

Dear Mycena News,

Can you help me identify a mushroom that showed up in my potted plants? They are light yellow, have a bulbous base and develop a cap. I have never seen these in Albuquerque, NM or in Colorado, either. Are they native or an import?

-Judy Gillenwater



Hi Judy,

Your mushrooms appear to be *Leucocoprinus birnbaumii* (*Lepiota lutea*), the "Flower Pot Parasol." Basically a tropical species, they are somewhat common in indoor cultivated habitats... Not considered edible, they do no harm in the pot. Enjoy your eye candy. *Mushrooms Demystified*, by David Arora has a photo, as does 'Mykoweb' on the internet.

-David Campbell

Mycena News received the above correspondence over the summer. Thanks to Judy Gillenwater for submitting the question and to David Campbell for help with the ID. If you have photos of interesting fungal finds, please share them with us at mycenanews@mssf. com.

Speaker continued

of the cultivation activities that take place at the Mushroom Cultivation class at Merritt Community College Landscape Horticulture Department. He will also discuss how to take advantage of collecting methods for cultivation opportunities at various MSSF forays and events during the coming season.

Ken started his professional naturalist career as a scientific illustrator, botanist, and instructor when in college and has continued in each of those endeavors by various permutations ever since. His fungal interests are currently being satisfied as chair of the Cultivation Committee of the MSSF, as instructor of Mushroom Cultivation at Merritt Community College in Oakland, as the contributing editor for Cultivation at fungimag.com, and by experimenting with collecting, growing, and using saprobic, mycorrhizal, and parasitic mushrooms while living on a ranch in the oak hills of the East Bay. He believes all musrooms are magical and he likes honeys.



September 2008, vol. 59:06

Contributors:

Dorothy Beebee, J.R. Blair, Gordon Callahan, Monique Carment, David Campbell, Pat George, Judy Gillenwater, Bob Sommer, Peter G. Werner

Editing and Layout:

Cordelia Chadwick, Jeffrey Fisher

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To subscribe, renew, or make address changes, please contact Alvaro Carvajal: alvaro.carvajal@sbcglobal.net or (415) 695-0466.

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

MSSF Officers 2008-2009

President: J.R. Blair (650) 728-9405 jrblair@mssf.org

Vice President: Dan Long (925) 945-6477 danlong@astound.net

Secretary: Phil Brown (510) 526-4325 towltek2000@msn.com

Treasurer: Henry Shaw 925-551-8243 hfshaw@yahoo.com

Morel Hunting with MSSF

Gordon Callahan

I missed morel season in the washington area.

traveling in the western US, so I again forayed with the MSSF. missed morel season in the Washington area this year. I was I've forayed with MSSF twice before—last year and about six years ago. All three times have been during morel season and all have been at the MSSF foray at the San Jose Family Camp, which is located just outside the eastern entrance to Yosemite. The previous two years I also went on forays with Wild About Mushrooms (WAM). These forays were the weekends following the MSSF foray, but this year WAM didn't have a foray until three weeks later so I skipped it.

My previous western morel forays were reasonably productive. I probably got a little more than I get in an average year here, but it certainly wasn't worth going to California just for the morels. The weather in much of California has been unusually dry this year, including the area around Yosemite, so this year was much worse. Everyone did terribly. I found a total of five morels in several hours of foraying.

Another person on the foray, Larry Stickney, had gone on a foray to a burn area in northern California the previous weekend. Western forests that burn frequently produce large quantities of morels the following spring. His group of six came home with over 100 pounds of morels after one day of collecting. (See photo.)

Larry generously donated a bag of morels for someone to cook for dinner. He generously shared also information on where he found them. Other people from his group posted maps of the area with the roads they took and the areas they

Gordon Callahan.

checked, marked and with GPS coordinates of the turns and areas they collected. Since I thought I'd probably be in the area in the not-too-distant future, I wrote down the directions.

The area where they collected was about 12 miles south of the small town of Happy Camp, CA. I drove the 12 miles to find the Titus Creek Gap, just as Larry had described it. I parked and walked up the hill and, within a couple of minutes, started finding morels. I collected for about five hours and found

around 12 pounds. I drove back to Happy Camp and checked into a hotel. I had my dehydrator with me, so I had a way to dry them, although they wouldn't all fit.

I went back the next day and got another 12 pounds or so, and continued collecting for five days. After the first few days, I got to know the manager of my hotel, the Forest Lodge. There were plaster morel sculptures in the gardens at the hotel, and I correctly guessed she was a mushroomer. I started cooking what wouldn't fit into the dehydrator with her every evening. Unfortunately, I never took a picture of a day's haul; I was getting back to the hotel too late and the light was fading.

After five days, my feet couldn't take walking on the steep slopes any longer. I hated to leave behind so many mushrooms, but I finally filled my cooler with dried morels and headed out. After I got home I weighed the dried morels from Happy Camp and multiplied by eight to determine how many pounds of fresh morels I had collected. It came out to be 45 pounds!

> Multiplying by eight is rather conservative, so it could have been a bit more. We cooked another six or eight pounds. This is, by far, my best year morel hunting.

> Before I left in late March, I had read that Larry Evans was setting up some camps near a few burn areas in Montana. I sent him an e-mail to get more details and found out the camps wouldn't open until June 1-morel season starts later in Montana. I was in Oregon around June



night. The next morning we headed to the Glacier Institute at Glacier National Park, one of the camps. Glacier Institute has rather nice cabins, bathrooms, and showers. There is a kitchen area with refrigerators, stoves, sinks, and cooking equipment. There was also an optional meal plan, with the Glacier Institute staff preparing the meals. In addition, we cooked morels every evening.

MycoDigest continued

complicated—how does one judge what the "right" name is for a particular taxon? There are several principles that guide this and, ironically enough, were devised to promote the idea of "nomenclatural stability"—that is, to prevent scientific names from being changed capriciously.

An important core rule is the Principle of Priority. This is the idea that, once an organism has been given a scientific name, that name remains the sole valid name for that taxon. Organisms may be moved into and out of the taxon, but the oldest name takes priority as long as that group remains as a real entity. The idea behind this is to prevent capricious renaming—that is, later scientists using a new name of their own to replace an already-named taxon. The only ways that an older group can be renamed is (1) its Linnean rank changes, for example, if a group classified as a "family" was reclassified as an "order" in a new system (and even then, the older family name would be expected to be conserved somewhere within that order); (2) the older name was not validly published (the International Code of Botanical Nomenclature is quite strict about what constitutes valid publication of a taxonomic name); or (3) by special decision: the ICBN committee makes a formal ruling to conserve a more recent name against an older one.

Another important rule is the "type" concept. This means that any named species should have a type collection to which the species name is attached. (Though this is not always the case with species named prior to the twentieth century.) If a single species ends up being divided into multiple species, the species that contain the original type collection bear the older species name. A "type species" is the species to which the name of a taxon of the rank of family or smaller (that is, a family, genus, or groups within a genus) is attached. So if a single family or genus is divided into several families or genera, the group that contains the type species keeps the older name.

While this system is supposed to keep scientific names relatively stable, it sometimes has the effect of leading to dramatic and unexpected name changes in light of new taxonomic discoveries. This is nowhere more evident than in some of the names changes that are taking place within the Strophariaceae.

This began with the discovery by Moncalvo and others (2002) that *Psilocybe* was a paraphyletic group, an artificial assemblage of two distinct clades. Basically, the hallucinogenic blue-staining group, for which *Psilocybe* is best known, is not directly related to the more innocuous non-hallucinogenic *Psilocybe*; and that furthermore, it was this later group that the type species of *Psilocybe*, *P. montana*, fell into, and hence was the group that was most properly named *Psilocybe*.

A paper by Metheny and others (2006) that contained a

very well-supported molecular phylogeny of the Agaricales confirmed the findings about *Psilocybe* in the Moncalvo paper and added a few other interesting twists. The Strophariaceae and their closest relatives were assembled into two families, the Strophariaceae and the Hymenogastraceae. The latter group bears an old family name that was thought to apply only to a small group of false truffles, but that were now found to be well embedded within a larger group of mostly above-ground mushrooms. The Strophariaceae was defined as including its traditional genera of *Stropharia*, *Hypholoma*, *Pholiota*, and the non-bluing *Psilocybe*, plus the addition of *Agrocybe*, which was found to be ensconced within this group. The Hymenogastraceae were found to include *Galerina*, *Phaeocollybia*, *Alnicola*, and *Hymenogaster*, among others, and also the bluing "*Psilocybe*" that were clearly shown to be a sister group to *Galerina*.

Formal renaming of the bluing psilocybe has been postponed until a more thorough molecular phylogeny that includes many more species has taken place. Nonetheless, it is expected that such a survey will be consistent with what has found so far in the Moncalvo and Metheny papers. There has also been much speculation as to what the "magic mushroom" psilocybe might be called. A survey of scientific names and synonyms among the bluing psilocybe does not seem to reveal any older available name, which the Principle of Priority would dictate be used for this group.

A recent phylogeny of stropharioid fungi by Bridge and others (2008) suggests an intriguing possibility. This paper further confirms the findings of the Moncalvo and Metheny papers, and finds that the type species of the secotioid ("stalked puffball") genus *Weraroa*, *W. novaezelandiae*, is well-embedded within the bluing *Psilocybe* and a close relative of the down-under "magic mushroom," *P. subaeruginosa*. This makes perfect sense, as this species is itself strongly blue-staining (presumably containing psilocin and psilocybin) and, once one gets beyond its odd secotioid appearance, it is very similar to other bluing *Psilocybe*. Taking note of the concepts of type and priority, the implications of this are clear: unless a thorough search of obscure mycological literature turns up an older available name, the proper name for the bluing psilocybe is *Weraroa*!

This is not the only big nomenclatural implication of this paper. Although the paper does not formally rename the bluing *Psilocybe* as *Weraroa*, it reclassifies the majority of other species of *Weraroa* into a new genus within the Strophariaceae, *Leratiomyces*. Hence, the name *Weraroa*, does not really apply to most of the species we know as *Weraroa*.

The expansion of the genus *Leratiomyces* likewise has some rather large implications. This was originally a small genus of secotioid species found in New Caledonia, but has now been

The MSSF Culinary Group

Pat George

Did you know that the MSSF has a lively group of members devoted to the pleasures of the gastronomical aspects of mushrooming? Culinary Group members plan and execute a dinner at our meetings each month on the first Monday night, with some exceptions, from September to May, except for December when we join the general group for a sumptuous holiday feast.

Members of the group receive notice of the upcoming dinners in the calendar section of the *Mycena News* and are sent its menu before the dinner by e-mail or by US mail. Reservations are required for diners and must be made in a timely manner by phone or by e-mail, so our cooks know what to buy and prepare. We meet at the Hall of Flowers in Golden Gate Park and begin with appetizers and punch at 7pm. Dinner is usually served at 8.

We are united in our love of cooking, as well as our love of mushrooms. Participants contribute to the dinner either as part of the team that prepares it or by bringing an appetizer to share. At the meetings, members contribute ideas and suggestions for the upcoming dinners. With the menu in place, members volunteer to do the cooking. The aim is for "chef-fora-night" members to plan and prepare foods they love and to share them with the group. The cooks are reimbursed for the costs of their ingredients.

Traditionally, these dinners have been designed to take advantage of the wild mushrooms available at the time, as well as the best and freshest food of the season. Generally, the menus are centered on mushrooms, may have an ethnic food focus, or may center on a special main ingredient or a holiday near the time of the dinner. The dinners are generous and grand from the pre-prandial punch and appetizers to the coffee (decaf, of course) and dessert. All courses are prepared by volunteers.

To be part of the feast and fun, you must be an MSSF member in good standing. There is a Culinary Group membership fee of \$12 (\$6 for seniors). Most dinners cost \$14 to cover the rental fee for the venue and the dinner's ingredients.

The Culinary Group is a participatory cooking group. Members take part at least once a year in the preparation of part of the main dinner. We in the Culinary Group also volunteer to help with special MSSF events such as the Holiday Dinner, the Mendocino Woodlands Foray, and the annual Fungus Fair.

Just to let you know how special our dinners are, one of our menus is provided here from a previous mushroom year. Making a choice from such riches was not easy. 🕸

Sample Culinary Group Menu

Punch • A Great Variety of Appetizers • Salad • Lamb Roasted in the Caja China • Morel and Garlic Mashed Potatoes • Asparagus • Candy Cap Mushroom Cheesecake Coffee.

Come join us, you lovers of cooking, good food and conviviality. For more information, contact Pat George, (510) 204-9130 or e-mail plgeorge33@yahoo.com.

Morel Hunting continued

The evening after we arrived, three other people were coming to foray with Larry. One of them turned out to be Albert Casciero! It's a small world.

The day I arrived in Montana was cold and rainy, and it stayed that way. I forayed for three days and collected a couple of pounds a day, some of which were dried and some eaten fresh. Then I heard a weather forecast for snow. The next morning, as forecast, it was snowing heavily, making mushrooming impossible. I decided it was time to leave. I have since heard from Larry—Montana has since gotten warm and the mushrooming has been terrific for a couple weeks. Timing is important.

Collecting in burn areas is unlike morel hunting in the east. In many of the burn areas, the salvage loggers have come in and chopped down everything that didn't fall during the fire. Even if the loggers haven't gotten to it yet, it's still an ugly landscape. Pretty much everything is charred and you get pretty dirty. But the morel hunting can be terrific.

This article was originally posted to the Mycological Association of Washington's (MAW) online message board. It is reprinted here with the author's permission.



Emotional Appeal

Bob Sommer

Weather had been too dry for mushrooms, but berry picking was decent. We snacked along the trail and carried back blueberries, red currents, and gooseberries. The raspberries, however, were too small and seedy to bother picking. While the berries along the trail were a treat during the hike, their quality did not equal that of the cultivated varieties. The currants left a bitter aftertaste, the gooseberries were covered with stickers that could not be removed (and the stickers turned to straw if the berries were boiled), and the blueberries were small, tough, and bland.



Lentinus collected by Barbara Sommer in Costa Rica, perhaps the first Shitake found growing wild in North America. Watercolor by Bob Sommer

of parallels One many between foraging for berries and mushrooms is that those species selected for widespread cultivation, and then selectively bred, are among the tastiest. While I won't order a dish specifically to obtain a topping of A. bisporus, as I might order a chicken dish with chanterelles or beef with porcini, every time I taste well-prepared button mushrooms, I am impressed with their full flavor and texture. It is no wonder that this variety was selected for widespread cultivation.

When I was first learning about mushrooms, I discovered a stand of *Suillus* under conifers in a nearby park. I was very excited since, unlike other mushrooms I had found, I was certain of the identification, and there were no "bad" lookalikes. The gastronomic experience proved, however, to be disappointing. The cooked *Suillus* were watery and tasteless. This experience disabused me of the naive notion that all edible wild mushrooms are delicious. Most, I have learned, are not. Only a few rate that elite field guide designation, "Edible and Choice."

For reasons difficult to explain, I enjoy painting wild mushrooms but not cultivated varieties. There seems something artificial and posed about supermarket fungi, which is independent of their flavor. I regard the shitake as one of the most, if not the tastiest mushroom. I don't recall ever painting a supermarket shitake. One reason is that supermarket mushrooms are cut and trimmed, like an amputee fungus cut off at the knees, which to me looks terrible in a painting. Yet when Barbara found a shitake on a foray in Costa Rica, I became very excited

(it wasn't supposed to grow wild in North America) and painted several folio-size watercolors. Although I occasionally buy interesting varieties, such as lion's mane and maitake at the Ferry Buildings mushroom stand, I don't enjoy painting them, and don't particularly like the finished product when I do. There seems no personal connection, no sense of discovery, as with a forest mushroom.

MycoDigest continued

found to include the former *Stropharia* section *Stropholoma* (including *Stropharia* (= *Hypholoma*) *aurantiaca*, *S. riparia*—a name used for at least two species on the West Coast, and *S. squamosa*) and most of the species of *Weraroa* (though not the type species). Furthermore, *Stropharia aurantiaca*, which may already hold some sort of record for name changes, has undergone a double name change to *Leratiomyces ceres*, having been found not only to fall into *Leratiomyces*, but was also found to be identical to the older *Stropharia ceres*, hence, having that species name take priority.

So, in summary, it seems the best-known *Psilocybe* may possibly be called *Weraroa*, the best-known *Weraroa* have been renamed *Leratiomyces*, and one of our most common wood chip fungi has gone from *Stropharia aurantiaca* (or, if you prefer, *Hypholoma* or *Naematoloma aurantiacum*) to *Leratiomyces ceres*. What's the beleaguered amateur to do? Perhaps a system of standardized common English names may be the answer, but this is no small irony, as the use of Latin scientific names was supposed to standardize "unstable" common names. **

Further reading

Matheny PB, et al. 2006. Major clades of Agaricales: a multilocus phylogenetic overview. *Mycologia* 98:982–995. Available from http://www.clarku.edu/faculty/dhibbett/ Reprints PDFs/Mathenyetal_Agaricales_2006.pdf.

Moncalvo JM, et al. 2002. One hundred and seventeen clades of euagarics. *Molecular Phylogenetics and Evolution* 23:357–400. Available from http://www.botany.utoronto.ca/faculty/moncalvo/117clade.pdf.

Bridge PD, Spooner B, Beever RE, Park D-C. 2008. Taxonomy of the fungus commonly known as Stropharia aurantiaca with new combinations in Leratiomyces. *Mycotaxon* 103:109–121.

Mycological Society of San Francisco c/o The Randall Museum 199 Museum Way San Francisco, CA 94114 First Class Mail U.S. Postage PAID Oakland, CA Permit No. 1451



September 2008, vol. 59:06

MSSF Calendar, September 2008

Monday, September 8, 2008, 7 pm, Culinary Group Annual Potluck Dinner, (note the date, please!) As usual, we start off our mushroom year with the best potluck imaginable. We meet at the Hall of Flowers, Golden Gate Park, 9th and Lincoln, San Francisco. No reservations are necessary at this dinner. The cost will be only \$5 this month. Don't forget to bring your tableware, a dish you love to share, and your favorite beverage. Contact Pat George at (510) 204-9130 or plgeorge33@yahoo. com if you have any questions. We normally meet on the first Monday of the month. Our next Culinary Group dinner will be on October 6.

Tuesday, September 16, 2007, 7pm MSSF General Meeting. Randall Museum. 7pm, mushroom identification and refreshments provided by the Hospitality Committee. 8pm, Ken Litchfield will present The Wonderful World of Mushroom Cultivation.

Friday–Sunday, November 14-16, MSSF Mendocino Woodlands Foray at Mendocino Woodlands. Includes lodging, meals, forays, classes, and special events. \$150 for MSSF members, \$175 for nonmembers. Under 12, half price (w/ adult), under 5 free. \$90 with offsite lodging. Registration

form available online at www.mssf.org/mendo, or by request to mendo@mssf.org. Questions? E-mail to address given, or call (707) 829-2063 or (650) 728-9405.

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