

Speaker for February
MSSF Meeting
Michael Kuo

Everything We Know
About Morels, And More



Photo by Carol Schumde

Our February lecturer, Michael Kuo, hopes to lead a lively discussion reviewing “everything we know about morels” (either we don’t know much, or he talks really fast). He plans to design the means by which all your morel questions can be answered-right there in front of you, and with your input. He will focus the discussion on applying what mycologists have learned about morels in laboratories to the complex ecosystems we call morel “spots”; on designing the best way to collect data about morels in nature (rather than petri dishes); on the necessity of “theorizing morels” as a social need; on the culture shared by morel hunters in the Midwest; on the potential value of “synecdochic,” rather than “metonymic,” study of morels;

Continued on page 2

Table of Contents

February Speaker1
 Down on the Fungus Farm1
 President’s Message2
 Beware! Be Wary!3
 Fungus Fair Wrap-Up4
 Oakland Fungus Fair5
 Culinary Corner6
 Recent Additions to Library6-8
 Cultivation Corner9
 Ow! Ow! Ow! It’s Candy Cap Season ..9
 The Foragers’ Report10
 SOD Quarantines and Scapegoats ...11
 Commentary: Scapegoating Mushroom Pickers13
 MSSF Policy Re: *Phytophthora Ramorum* .13
 Calendar14

Mycena News

Mycological Society of San Francisco

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Mycodygest

Mycodygest is a section of the Mycena News devoted to the scientific review of recent mycological information

Down on the Fungus Farm

By Else Vellinga

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Many millions of years ago, long before the existence of Man (*Homo sapiens*), a group of American ants started to grow fungi for food. And they still do it, and do not eat anything else. These ants do exactly the same things as the farmer does with his crops and animals. The fungal gardens are weeded and groomed, fertilized and ‘sprayed’ with antibiotics to kill bacteria, and after 5 to 7 weeks cuttings are taken and replanted for new gardens elsewhere in the nest, while the old gardens are abandoned. All these activities take place underground. Most importantly, the ants bring food in the form of plant material for the fungi. It is fascinating to realize that humans now are just reinventing methods which have been in use literally for ages by minute critters.

The ants are members of the tribe Attini, or attine ants, a group of 13 genera and circa 200 species, only occurring in the Neotropics. The leaf cutting ants (genera *Atta* and *Acromyrmex*) - the so-called higher attine ants - bring freshly cut leaves into the nest. Their mandibles are shears with which the leaves are cut, and smaller worker ants often ride on the leaves on their way to the nest to protect the material against fly attacks. Just because of the sheer size of their colonies these ants cause a lot of damage to crops. Five to eight million animals can live in one colony, using per day as much plant material as a full-grown cow. The cut leaves are scissored into smaller and smaller pieces by smaller and smaller worker ants, chewed on and then given to the fungi. There are also lower attine ants who don’t bring fresh leaves to the fungi, but take everything edible from the forest floor.

All these ants cultivate *Lepiota*-like species. Actually several groups of species are involved, allied to *Leucoagaricus rubrotinctus*, and *Leucocoprinus birnbaumii* (*Lepiota lutea*). However, the ants are only interested in the vegetative state of the fungus, and don’t want it to fruit, so they actually suppress the formation of mushrooms. This makes it difficult to know which species of fungus is used by the ants. Molecular methods have made it possible to compare the different species, place them in groups, and relate them to species which do produce fruiting bodies. Mushrooms occur when the nest is deserted for whatever reason. The number of times this has been reported is small, but they still can do it!

One particular group of fungi does not form hyphae at all, but exists in yeast-form: simple cells, no hyphae, no structures. The fungi cultivated by the leaf cutters form grape-like swellings on the hyphae, and these are gathered by the

Continued on page 3

President's Corner

By David Rust

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The mushroom season is half over, and it seems like it has hardly begun. People held back their energy for mushrooms because our second storm didn't come until early December, just in time for the fair.

This year's fair, although less well attended, had good content and a professional presentation of educational displays. Tons of MSSF volunteers made it happen - from the ID process and set up on Friday night to clean up on Sunday. Tom Chester, who has chaired or co-chaired the Fungus Fair for four straight years, did a marvelous job keeping everything running smoothly. Thank you for all your time and energy, Tom, from everyone in the society. I would also like to extend our thanks to Tom Steller and his staff at the Oakland Museum for devoting so much of their own time to make it happen.

When mushrooms finally got around to fruiting in late December, astonishing numbers of *Amanita phalloides* appeared - and with them, at least one liver transplant and several poisonings. Death Cap stories have received extensive coverage on the television news. We hope to forge a closer relationship with California Poison Control in the coming years to get the word out sooner, and save lives.

We have some exciting speakers coming up this spring. Michael Kuo will speak this month on morels; former member Steve Trudell pays a visit in March to talk about mycorrhizal relationships; Matt Smith, our recent scholarship recipient will speak in April about *Armillaria*; and Lisa Grubisha will talk about *Rhizopogon* in May.

Welcome to our all our new and renewing members! I hope to see you at one of our spring meetings and forays!

Michael Kuo

Continued from page 1

and, finally, on the development of a global community of amateur mushroomers that will advance the science of mycology farther than the mycologists themselves! If there is any time left after his presentation, he plans to achieve world peace and have some coffee.

Michael Kuo is an English teacher at Eastern Illinois University, and an amateur mycologist. His website, MushroomExpert.Com, has become a popular Internet resource for information on mushrooms. He has a Ph.D. in Literary Theory from Indiana University of Pennsylvania, where he wanted to write a dissertation on mushroom literature, but had to settle for political poetry instead. He has been collecting and wondering about mushrooms for many years. For an insightful preview of Dr. Kuo's talk, visit the part of his website devoted exclusively to morels: <http://www.bluewillowpages.com/mushroomexpert/morels/index.html>.

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New Mushroom Book!

MSSF member Sandra Massen has written *Wild Mushrooms, A Forager's Notebook*. It contains practical techniques for cleaning, preparing and preserving wild mushrooms - including favorite heart-healthy recipes. A sample copy is in the MSSF Library for your perusal. To order, send \$10 to Sandra Massen, 350 Redwood Avenue, Corte Madera, CA 94925.

**For the most current
Calendar information,
call the MSSF hotline at
415-759-0495 or check the
MSSF web site at:**

www.mssf.org

The password for the members section of the MSSF website will change on February 1, 2003. The new login and password will be:

login: mssf

password: macrofungi

Down on the Fungus Farm

Continued from page 1

ants and brought to the larvae. The other ants let their larvae loose on the hyphae to graze. The normal way the fungus is transferred from one nest to the next is by the founding queen. She puts a bit of fungus in a pocket inside her mouth, before starting on her wedding flight. And she keeps it there during the mating, and the digging of the hole for the new nest! This wad of fungal material will sustain the new colony.

Neighbouring ant colonies of different species may grow the same fungal species. If your food supply dies off, you go to the neighbour to take some!

Not only can the garden be raided by other fungus growers, there are even pirate ants, who cannot cultivate the fungus themselves, but just want to live a life of luxury for a while before moving on to the next bed of fungi.

One of the big questions is: How did it all start, 50 millions or more years ago? Was there a single founding episode? Was it accidental, in other words, were there already (mycorrhizal) fungi growing in the nest? Did the fungi start out growing on the ants' garbage heaps? Or were bits of spores and hyphae found during food trips and carried around in the ants' mouth pockets, and subsequently grown in the nest?

Another big question is whether there is any advantage in the whole process for the fungi. Is their role just a passive one (they do resemble pigs in industrial farming don't they?), or can they manipulate the ants' behaviour and turn the situation into a positive one for themselves? Can the fungi influence the biology of the ants, for instance, by regulating the number of female ants born? There are definitely indications that the fungi do have something to say in what the ants do and don't do. If the ants collect plants the fungi don't like, they are clearly told not to do that again. The reprimand is possibly a chemical signal that in one way or another is transferred from the fungus to the workers in the nest to the foragers who cover great distances in the outside world.

Research on the chemicals used by the ants and the fungi can play a role in decreasing the crop damage caused by the leaf cutters. New discoveries in the way the fungi and the ants live together can give more insight into the process of evolution. Anyway, there is much to learn from these exciting mutualisms!

Further reading: about ants, and the interactions between ants and fungi:

Hölldobler, B. & E.O. Wilson 1990, The Ants. Harvard University Press, Cambridge MA.

Hölldobler, B. & E.O. Wilson, 1994. Journey to the Ants. A story of scientific exploration. Harvard University Press,

Cambridge MA.

Mueller, U.G., 2002. "Ant versus fungus versus mutualism: Ant-cultivar conflict and the deconstruction of the attine ant-fungus symbiosis." *The American Naturalist* 160, Supplement: S67-S98. 2002.

North, R.D., C.W. Jackson & P.E. Howse, 1997. "Evolutionary aspects of ant-fungus interactions in leaf-cutting ants." *Trends in Ecology and Evolution* 12: 386-389.

Beware! Be Wary! We Are Surrounded by Deathcaps

By Dr. Bill Freedman, Toxicology Committee Chairman
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Most of the referrals that I have received from the Poison Control Center over the past two decades have involved young children whose curiosity and tendency to put things in their mouths has led to sampling mushrooms from the garden. Fortunately, all the cases so far have involved non-toxic species. Young dogs share this tendency to chew on things in the garden, including fungi.

In October 2002, the first fruiting of *Amanita phalloides* had not yet occurred and things were pretty quiet for those who serve the Poison Control Center. I was surprised to receive a call on a warm, autumnal afternoon regarding a ten-week old German Wirehaired Pointer. He had avidly investigated the yard around his home and ingested several times, according to his owners, something "in which he was totally focused and intent on savoring." The dog had eaten dried mushrooms that he found in the leaf litter under a large California Live Oak. What followed is a grim story.

In spite of the owners' careful monitoring of the dog's explorations and taking objects out of his mouth, the puppy managed to ingest enough dried mushroom to cause a classic *Amanita* poisoning. The first stage started within a day and was marked by intense gastrointestinal involvement (vomiting and diarrhea). The veterinarians treating the puppy checked blood chemistry for liver functioning but, in a fairly short period of time, the poisoning had progressed to a point where the owners were advised of the dog's pain and suffering and he was euthanized. The second stage of liver and kidney damage that results in death might have taken a few days longer.

Shortly afterwards, I was contacted by the bereaved owners and visited their home where I identified dried specimens as *Amanita*. The mushrooms were very tough and had a strong, not unpleasant aroma — just what a young dog would love to chew. Mike Wood's microscopic examination of the specimen confirmed that it was either *Amanita phalloides* or *A. ocreata*, probably the latter due to its later fruiting.

The lesson to be learned is to get rid of fresh or dried mushrooms found under oaks if young children or pets might be maneuvering their way through the enticing twigs and other objects that nature provides in the garden. We know that a lethal dose for such a small being is far less than the two ounces that would kill an adult. Remember, also, that poisonous *Amanita* continue to fruit until late in the season so the task of clearing the area for children or pets may need to be repeated several times.

Fungus Fair 2002 Wrap-Up

By *Mark Lockaby and Tom Chester*

Now in early February, the 2002 Fungus Fair seems a world away. Due to the production schedule for the newsletter, though, this is the first chance we've had to write about it. Despite an initial dearth of rain and then a nightmarish abundance of it, the MSSF and the Oakland Museum staff pulled the fair off in fine style.

Despite torrents of rain and headline-making floods, more than 2,000 people came to the fair. And our club foragers slogged through mud to bring in 230 species of fungi to show them. Nearly 200 MSSF members and friends volunteered their time to help stage the event.

The fair itself did us proud. The educational displays were better than last year's. Our speaker program was the most ambitious of any fair in MSSF history, filling almost every hour of the fair with talks and slide shows. The cooking demonstrations succeeded in weather conditions that future MSSF members will find hard to believe.

Although thanking specific people is dangerous because such a list almost always inadvertently misses someone, a whole bunch of MSSF folks deserve recognition for their time and work. Here are some:

- Lorrie Gallagher who had the most difficult job in the fair, organizing volunteers. She did it well and cheerfully, and the quality of the fair reflects her work.
- Monique Carment, for coordinating the vendors and soothing them as they coped with the weather, and for being the roving announcer of speakers and cooking demonstrations. She is a treasure.
- Ken Litchfield for amazing ability and plain hard work. He not only created the magnificent natural habitat centerpiece on Friday night, but he coordinated the Cultivation display during the fair.
- Jim Miller for providing exactly the right amount and type of duff, wonderfully dry duff, no mean feat in such wet weather. He will continue to hold the title of Duff Czar/Tsar this year.
- Fire and Earth for working on the Psychoactive Mushroom exhibit and answering an endless flow of questions.
- Else Vellinga, J.R. Blair, Mike Boom, and Paul Koski for developing the Introduction to Fungi posters that were the best new display we had this year.
- Yu-Shen Ng for the persistence and alacrity with which he handled publicity, and for his excellent idea on changing the name.
- Scott Hajicek-Dobberstein for taking on the Mushrooms and Spirituality display and for speaking on the subject despite a frustrating scheduling conflict.
- Bill Freedman for his excellent toxicology and ecology displays and for his time and knowledge in answering a flood of questions.
- Louise Freedman and Sherry Carvajal for their work once again in the Children's area.
- Stacy Barros, Robert Esposito, and Dr. Mo Mei Chen for the Medicinal Mushroom exhibit, among the most popular in the fair.
- Dan Nicholson for putting together a toothsome Edibles display.
- Len Coleman and Paul Koski for taking on the Beginning ID display at the almost the last minute and doing an excellent job.
- Miriam Rice and Dorothy Beebee for the splendid Mushroom Dyes display.
- The California Lichen Society, SOMA, and the California Oak Mortality Task Force for their interesting displays.

- Tom Sargis for the lovely photographs, Paul Marchand for the magnificent mushroom sculptures, and Chris Thayer for donating framed posters from past Fungus Fairs.
- David Rust for organizing the design and production of this year's tee shirt.
- Robin MacLean for her third year of single-handedly organizing the Mushroom Grocery and selling out of almost everything!
- Norm Andresen for handling book sales.
- Jane Wardzinska for feeding the hordes on Friday night.
- Sherry and Al Carvajal for feeding volunteers on Saturday and Sunday.
- Al Carvajal for his efficient organization of the speakers.
- Mike Wood and the other members of the Systematics Committee for the Friday night ID and staffing of the Continuing ID table during the fair. Particular thanks to John Lennie for the species catalog he produced—more than 230 species.
- The SFSU students for their help with the Friday ID.
- J.R. Blair for wrangling the SFSU students and for his Solomon-like decisions on allocating mushrooms among the competing displays.
- Dr. Dennis Desjardin for his expertise in the identification process.
- Mark Thomsen for organizing the cooking demonstrations and dealing with the vagaries of the weather.
- Tom Sasaki for setting up the forays and for help during the fair at the mushroom tables.
- George Collier for keeping us straight on finances, and Jane Collier for helping staff the Membership table during the fair.

In addition to the MSSF community, we owe particular thanks to the staff of the Oakland Museum: Tom Steller, Dorris Welch, and Lindsay Dixon, in particular, but also Shirleen, Chris, and Caroline. They have shown a lot of faith and patience in the MSSF for the last two years, and have worked long hours to make the fair work. They deserve a standing ovation.

If we have missed you or one of your friends we apologize. We appreciate all of the time and energy that went into the fair. It made our job as co-chairs easy.

PS: If you have suggestions on how we might improve the fair next year, please send them to fungusfair@mssf.org.



Photos by Dave Bell



Oakland Fungus Fair

14-15 Dec. 2002

By John Lennie, librarian@mssf.org

The first winter storm, which hit on 7 November, was a severe one with heavy rain. But within a couple of days the weather was sunny and no more rain fell until 6 December. Then, and again on 9 December, there was light rain but other days were clear until Friday 13, when the forays for the fair were scheduled. That day there was a downpour.

It was a recipe for disaster. In the Bay Area, almost no mushrooms responded to the first rain and the month-long dry period had banished mushrooms so completely that it was hard to find a single fruitbody. In late November and early December several people scoured the Berkeley campus and all reported that it was totally barren. The first rain in December seemed too little and too late to help the fair. The downpour on the 13th was the final blow; it led to one foray being canceled when only the leader showed up, and shrank the turnout for the rest. And yet the fair was a success: 236 species were recorded, fully 80% of the 296 recorded in 2001!

To give a sense of the dramatic change that occurred in the last few days, consider the San Francisco watershed. On 18 November we had scoured the cypress grove there for *Lepiota* without finding a single specimen (and almost nothing else) and yet on the 13th December sections of the grove were fruiting profusely. The problem then was that many of the fragile *Lepiotas* had been damaged by the heavy rain. Overall, with 66% of the species recorded in 2001, the watershed did relatively poorly. Salt Point on the other hand, with 125%, actually did significantly better. Even towards the end of November, when the Bay Area was a mushroom desert, some mushrooms could be found in Mendocino, though far fewer than usual.

The mushrooms at the fair were the ones you would expect after



the first rain but were now a month late. There were many *Suillus* and other boletes but almost no *Russulas*, *Lactarius*, *Hygrophorus* and *Cortinarius* - personally I hadn't seen a single specimen in any of these genera until the fair. True, with 13 species, *Russula* tied with *Boletus* for the genus with most species, but this number gives a totally misleading impression. The *Russula* collections consisted of one or two fruitbodies whereas the boletes were abundant. It is interesting that in the two weeks since the fair there has been a lot of rain and yet here in Berkeley 10 days later there were again almost no mushrooms. The window of opportunity for the fair was truly narrow; how lucky we were!

Editor's note: John Lennie has posted the on the MSSF website a list of mushrooms collected for the fair.



Culinary Corner

By *Al Carvajal, alvaro.carvajal@att.net*

In the middle of November, before the rains came, I headed to The Sea Ranch to spend a weekend searching for boletes. It had rained a few days before and my mouth was watering with the anticipation of the wonderful ways that I planned to cook all those boletes that I would pick. But alas, that was not to happen since the soil was dry and there were no mushrooms of any kind to be had. After walking up and down the coastal hills for a couple of days and having not a single bolete to show for our effort, we decided to accept reality and give up the search for mushrooms. Looking for some way to spend the time, we came up with the idea of collecting mussels from the rocks nearby. In just a few minutes we had collected more than enough mussels to make a terrific dinner. I've been always puzzled as to why Californians don't harvest the large numbers of them growing freely on the coast rocks.

That dinner brought memories of the wonderful dinners I had in Belgium. Several years back, my work took me to Antwerp on a regular basis. Every time I went, I ate well. Each night was a formidable feast: lots of salmon, pâté, cheese and wines. After work, we would gather at 7:30 for cocktails and hors d'oeuvres and sit down at nine for dinner. Belgians like to eat and drink well, and not just on special occasions, so I was in my element. These evenings would last past midnight, with after dinner drinks and dessert. I must say, chocolate mousse, as pedestrian as it has become in the U.S., is stunning made with real Belgian chocolate. Moules et frites is one of the Belgian's favorite dishes. This is unpretentious, generous finger food. Indeed, in many restaurants, the mussels come to the table in a black casserole that is placed in front of each guest. An empty mussel shell is used to pick the tender morsels out of their shell and the crispy fries are dipped in mayonnaise. From all those memories came the theme for last month's dinner.

At the Culinary dinner, we had, as usual, a great variety of appetizers, and as usual I was too busy to catch the names and dishes that everyone brought. Of the few I can remember, we had an excellent spinach dip over sweet baguette rounds (Liz Crumley); wonderful baked mushrooms caps with mussels and cheese (David Bell); an incredibly delicious marinade of chanterelles, candy caps and blewits (David & Jeanne Campbell); some flavorful baked mussels topped with nuts and butter (Robin MacLean), a potato salad and an egg salad (David, Mishel and George). Tom Sasaki brought some morel pot stickers. All of the appetizers were wonderful and demonstrated a great deal of culinary skill by their makers. Later in the evening, I found out that a couple of the appetizers were prepared using Amanitas. I would like to remind the members of our policy of not using amanitas in the preparation of dishes to be

served at the MSSF meetings. This prohibition exists because of the dangers inherent in the amanita family.

After the appetizers, we started with a wonderful and beautifully decorated salad prepared by Paul Menyharth and accompanied by an outstanding sour dough bread from John Garrone.

Next we started with the mussels. Mussels are a snap to prepare and taste great when steamed in beer, another Belgian specialty. Leon Ilniki procured 100 pounds of mussels and we set out to devour them with different sauces. We had mussels steamed in a wine, celery and onion broth by Leon Ilniki, steamed in a Pernod, celery root broth and sprinkled with saffron aioli by Carol Reed, and steamed in a garlic and fine herbs broth by Mark Lockaby. Sue Wingerson, a new member, steamed the mussels in a broth of coconut milk, lemon grass and curry and topped with cilantro, parsley and fresh chopped tomatoes that gave the mussels an exquisite Thai flavor. If you were so inclined, you could also have just plain mussels steamed in wine. All the sauces were wonderful and it was hard to try a just few of each kind.

If you know even a single Belgian, he will at once admonish you to try the Belgian fries, their reputation is so wide. Purchased on the run, they're served in a conical container with lashings of mayonnaise, and are indeed excellent. But the double fried Belgian fries that Ken Litchfield prepared for the evening were truly outstanding. They came out crisp with no hit of grease and were served with homemade mayonnaise prepared by Carol Hellums. Carol prepared two flavors: garlic and curry. We also had ketchup available but it remained untouched.

We washed down the dinner with a keg of Abbey of Leffe blond beer procured by yours truly. The beer was full-bodied and substantial, yet not heavy. It had a well-rounded, delicate malt sweetness that is intertwined with the special yeast character that makes this an abbey beer. In the early Middle Ages, abbeys and monasteries provided shelter, food and refreshment to passing travelers and pilgrims. Being entirely self-sufficient, the monks hand crafted their own beer, brewed naturally from local ingredients with an almost religious dedication and in accordance to the strict rules for abbey beers at this period. Leffe traces its origins back to the Abbey Notre Dame de Leffe, founded in 1152 on the river Meuse in the province of Namur in southern Belgium.

We closed the evening with some delicious pecan pies baked by George Collier and the wonderful coffee prepared by Remo Arancio. Needless to say, the pies were truly outstanding

For our next diner, we will have an opportunity to taste one of the best cioppinos in town. I'll see you there.

Recent Additions to Library

John Lennie librarian@mssf.org

In the last 18 months the library has acquired 120 or so books (shelf numbers 526 to 647.) A number are descriptive, like the beautiful *Fungi of Switzerland* (we now have all the volumes that have been published), but there are also many new cook books and books on cultivation. The list is printed on the following two pages. The first column gives the identification code (the shelf numb), subsequent columns give the authors, the title, the original publication date and the number of pages.

Members may borrow these, and any of the other 500 books and videos in the library. The full catalog, which also contains listings by author, by title and by a number of categories (culinary, cultivation, ...), as well as by shelf-number, may be found in the members section of the web site (www.mssf.org). It runs to 85 pages! The author and title catalogs have multiple entries for some items so you can look up a book by any of its authors and by key words in its title.

The library is kept at the Randall Museum and is open from 7:15 to 8:00 before the monthly meetings. Comments, questions and suggestions for new acquisition may be sent to me.

See list on following two pages ➡➡

Recent Additions to Library

526	Hobbs, Christopher	Kombucha: Manchurian Tea Mushroom	1995	56
527	Cameron, Eleanor	Stowaway to the Mushroom Planet	1956	209
528	Dickson, Gordon	The Concise Guide to Mushrooms and Toadstools [of Great Britain]	1990	103
529	Irvine, Sian (photographer)	Mushrooms: Mushroom Recipes by Leading Chefs from around the Globe	1998	160
530	Castellano, M.; Smith, J.; O'Dell, T.	Handbook to Strategy: 1 Fungal Taxa from the Northwest Forest Plan [in North America]	1999	195
531	Metzler, Susan; Metzler, Van	Texas Mushrooms; A Field Guide	1992	195
532	Hudler, George W.	Magical Mushrooms, Mischievous Molds	1998	248
533	Picart, F.	Truffle: the Black Diamond	1980	89
534	Ola'h, Gyorgy-M.	A New Way to Grow Edible Mushrooms	1981	88
535	Kuo, Daniel D.; Kuo, Mau H.	How to Grow Forest Mushroom - Shiitake	1983	108
536	Chang, Shu-Ting	The Chinese Mushroom: <i>Volvariella volvacea</i> - ... Cytology, Genetics, Nutrition and Cultivation	1972	113
537	Chang, S.T. ed.; Quimio, T.H. ed.	Tropical Mushrooms: Biological Nature and Cultivation Methods	1982	493
538	Chang, S.T. ed.; Hayes, W.A. ed.	The Biology and Cultivation of Edible Mushrooms	1978	819
539	Arora, David	All that the Rain Promises and More ...	1991	263
540	Flegg, P.B.; Spencer, D.M.; Wood, D.	The Biology and Technology of the Cultivated Mushroom	1985	347
541	Fletcher, J.T.; White, P.F.; Gaze, R.	Mushrooms: Pest and Disease Control	1986	156
542	Ismail, Mohamad	Wild Exotic Mushrooms of Commercial Promise, 2nd ed.	1984	42
543	Lelley, Jan	Mushrooms from Your Own Garden [German]	1978	143
544	Rettew, G. Raymond	Manual of Mushroom Culture	1948	272
545	Wuest, ed. P.; Royse, D.; Beelman, R.	Cultivating Edible Fungi	1987	677
546	Delmas, ed. Jacques	Mushroom Science X: 10th Internat. Congress on Science & Cultivation of Edible Fungi, part 1	1979	1068
547	Delmas, ed. Jacques	Mushroom Science X: 10th Internat. Congress on Science & Cultivation of Edible Fungi, part 2	1979	902
548	Nair, ed. N.G.	Mushroom Science XI: 11th Internat. Congress on Science & Cultivation of Edible Fungi, part 1	1981	766
549	Nair, ed. N.G.; Clift, A.D.	Mushroom Science XI: 11th Internat. Congress on Science & Cultivation of Edible Fungi, part 2	1981	904
550	Walters, ed. Tony	Mushrooms and Man: an Interdisciplinary Approach to Mycology	1978	310
551	Courtenay, Booth; Burdsall Jr., H.	A Field Guide to Mushrooms [of North-eastern and Midland North America] and Their Relatives	1982	144
552	Guba, Emil	Wild Mushrooms, Food and Poison	1977	186
553	Haard, Karen; Haard, Richard	Foraging [in the Pacific NW] for Edible Wild Mushrooms	1978	156
554	Menser, Gary	Halucinogenic and Poisonous Mushrooms (reprint of 1977 ed. with new preface)	1997	140
555	Stubbs, Ansel Hartley	Wild Mushrooms Worth Knowing [in the Central Mid-West of North America]	1980	135
556	March, Andrew L.; March, Kathryn G.	The Mushroom Basket [especially Mushrooms of the Southern Rocky Mountains]	1982	161
557	Matsumoto II, Kosai	The Mysterious Reishi Mushroom	1979	63
558	Mori, Kisaku	Mushrooms as Health Foods	1974	88
559	Myer, Donna	Answers to your Mushroom Questions plus Recipes	1977	79
560	Downing, Don	Twelve Mushroom Hunts in Western Washington	1984	43
561	Boston Mycological Club	Mushroom Recipes 1984-1985	1986	25
562	various	NAMA XXV: the North American Mycological Association Twenty-Fifth Anniversary Issue	1985	55
563	Breitenbach, J.; Kraenzlin, F.	Fungi of Switzerland, Vol 5: Agarics 3rd part - Cortinariaceae	2000	338
564	Persson, Ole	The Chanterelle book - Cantharellaceae	1997	120
565	Moore, David	Slayers, Saviors, Servants and Sex: an Expose of Kingdom Fungi	2001	183
566	Smith, A.H.; Evenson, V.S.; Mitchel, D	The Veiled Species of <i>Hebeloma</i> in the Western United States	1983	219
567	Martin, G.; Alexopoulos, C.; Farr, M.	The Genera of Myxomycetes	1983	184
568	Gilbertson, R.L.; Ryvarden, L.	North American Polypores: Vol. 1 Abortiporus - Lindtneria	1986	433
569	Gilbertson, R.L.; Ryvarden, L.	North American Polypores: Vol. 2 Megasporoporia - Wrightoporia	1987	448
570	Stamets, Paul	Growing Gourmet and Medicinal Mushrooms, 3rd ed.	2000	574
571	Benjamin, Dennis R.	Mushrooms, Poisons and Panaceas	1995	422
572	Bessette, Alan & Arleen; Fischer, D.W	Mushrooms of Northeastern North America	1997	584
573	Bessette, Arleen & Alan; Neil, W.J.	Mushrooms of Cape Cod and the National Seashore	2001	177
574	Bessette, Alan & Arleen; Roody, W.C.	North American Boletes: a Color Guide to the Fleshy Pored Mushrooms	1997	400
575	Bessette, Arleen & Alan	The Rainbow beneath my Feet: a Mushroom Dyer's Field Guide	2001	178
576	Jalink, Leo M.	The Earthstars of the Southwestern United States	1999	11
577	Ralston Purina	Fresh Ideas [for Cooking] with Mushrooms	1978	128
578	Frederick Warne, pub.	Fungi [Italian original]	c1970	48
579	Ellis, E.A.	British Fungi: Book 1	1976	32
580	Ellis, E.A.	British Fungi: Book 2	1976	32
581	Duggar, B.M.	Mushroom Growing	1915	250
582	Simons, Arthur J.	Mushroom Growing	1972	96
583	Sandford, Jeremy	In Search of the Magic Mushroom	1973	176
584	Large, E.C.	The Advance of the Fungi	1962	488
585	Griffiths, D.A.	Hong Kong Fungi	1977	129

586	Chang, Shu-ting; Xiaolan, Mao	Hong Kong Mushrooms [Chinese]	1995	470
587	Zeitlmayr, L.	Wild Mushrooms [of Germany]	1968	138
588	Marchand, Andre	Mushrooms of the North and Midi [of France]: Best Edibles and All Toxic Ones [French]	1971	282
589	Ainsworth, G.C.	Introduction to the History of Mycology	1976	359
590	Smith, A.H.	A Field Guide to Western Mushrooms [of the United States]	1975	280
591	Singer, Rolf	The Boletineae of Florida	1945	305
592	Jenkins, David T.	A Taxonomic & Nomenclatural Study of the Genus Amanita Section Amanita for North America	1977	126
593	Watling, Roy	British Fungus Flora, Agarics and Boleti 1: Boletaceae: Gompidiaceae: Paxillaceae	1970	106
594	Ingold, C.T.	Fungal Spores Their Liberation and Dispersal	1971	302
595	Hawksworth, D.L.	Mycologist's Handbook	1974	231
596	Griffiths, Kevin	A Field Guide to the Larger Fungi of the Darling Scarp & South West of Western Australia	1985	80
597	Pilat, A.; Usak, O.	A Handbook of Mushrooms [Czech original]	c1960	170
598	Brodo, I.; Sharnoff, Sylvia & Stephen	Lichens of North America	2001	795
599	Wasson, R.G.	Soma: Divine Mushroom of Immortality[, a theory of Wasson about Amanita muscaria]	1968	381
600	Smith, Alexander H.	[Key to North American Species of]Amanita [Xerox copy]	1978	285
601	Orr, Robert	Notes and Clippings Regarding Mushroom Poisoning, Compiled by Dr. Robert Orr (1958-1972)	c1970	c20
602	Harkness, H.W.	Californian Hypogaeous Fungi [Xerox copy from Proc. Calif. Acad. Sci.]	1899	45
603	Thiers, Harry & Ellen	A Preliminary Check-List of the Mushrooms of California [Xerox copy]	1976	15
604	Anonymous	[A Check-List of]California Polypores [Xerox copy]	c1980	6
605	Lincoff, G.H.	A Guide to the Poisonous Mushrooms in the Greater New York Area	1976	44
606	Hallen, Heather; Adams, Gerard	Don't Pick Poisonous Mushrooms for Food in Michigan	2002	43
607	Hobbs, Christopher	Medicinal Mushrooms: an Exploration of Tradition, Healing and Culture	1995	251
608	Preuss, Harry; Konno, Sensuke	Maitake [Grifola frondosa] Magic	2002	160
609	Fine, Gary Alan	Morel tales: the Culture of Mushrooming	1998	324
610	Lenart, Joe; Lenart, Jadwiga	We are the Champignons: a Guide to the Gathering and Preparation of Britain's 10 Finest Mushro	2001	114
611	Kirk, P.; Cannon, P.; David; Stalpers	Ainsworth & Bisby's Dictionary of the Fungi (9th ed.)	2001	655
612	Riedlinger, Thomas J.	The Sacred Mushroom Seeker: Tribute to R. Gordon Wasson	1997	283
613	Wasson, R. Gordon	The Wondrous Mushroom: Mycolatry in Mesoamerica	1980	248
614	Ott, Jonathan (ed.); Bigwood, Jeremy	Teonancatl: Hallucinogenic Mushrooms of North America	1978	177
615	Dorros, Arthur	A Tree is Growing	1998	29
616	Reed-Jones, Carol	The Tree in the Redwood Forest	1995	31
617	Pegler, David; Spooner, Brian	The Mushroom Identifier	1992	144
618	Romagnesi, Henri	Exotic Mushrooms [French original]	1961	192
619	Breitenbach, J.; Kraenzlin, F.	Fungi of Switzerland, Vol 2: Heterobasidiomycetes, Aphylophorales, Gastromycetes	1986	412
620	Breitenbach, J.; Kraenzlin, F.	Fungi of Switzerland, Vol 3: Strobilomycetaceae, Boletaceae, Paxillaceae, Gomphidiaceae, Hygro	1991	361
621	Breitenbach, J.; Kraenzlin, F.	Fungi of Switzerland, Vol 4: Entolomataceae, Plutaceae, Amanitaceae, Agaricaceae, Coprinaceae,	1995	368
622	Hemmes, Don E.; Desjardin, Dennie E.	Mushrooms of Hawaii	2002	212
623	Barron, George	Mushrooms of Northeast North America: Midwest to New England	1999	336
624	Bessette, Alan	Mushrooms of the Adirondacks: a Field Guide	1988	145
625	Horn, Bruce; Kay, Richard; Abel, Dean	A Guide to Kansas Mushrooms	1993	297
626	Courtecuisse, Regis	Mushrooms of Britain and Europe	1999	904
627,628	Arora, David	All that the Rain Promises and More ...	1991	263
629	Fisher, David W.; Bessette, Alan	Edible Wild Mushrooms of North America: a Field-to-Kitchen Guide	1992	254
630	Bessette, Arleen; Bessette, Alan	Taming the Wild Mushroom: a Culinary Guide to Market Foraging	1980	248
631	Wheeler, Steven	Mushroom Magic: 100 Fabulous Feasts with Wild and Cultivated Mushrooms	1996	128
632	Acton, Johnny; Dandler, Nick	Mushroom: [a Cookbook]	2001	160
633	Taylor, Patricia A.	Patricia's Mushroom Cookery: Vegetarian Dishes	1998	116
634	Czarnecki, Jack	Joe's Book of Mushroom Cookery	1986	340
635	Czarnecki, Jack	Portobello Cookbook	1997	88
637	Shimizu, Kay	Cooking with Exotic Mushrooms	1977	60
638	McLaughlin, Michael	The Mushroom Book: Recipes for Earthly Delights	1994	136
639	Przybylowicz; Donoghue, John	Shiitake [Lentinus edodes] Growers Handbook: The Art and Science of Mushroom Cultivation	1990	217
640	Kavaler, Lucy	Mushrooms, Molds, and Miracles	1965	318
641	Rice, Miriam	Mushrooms for Color	1980	153
642	Stanek, Sissi; Stanek, Joachim	Mushrooms in 3D: 60 Mushrooms in Color [German]	1997	140
643	Andrew, Meredith	Deadly by Nature	1995	240
645	Faubion, Nina L.	Some Edible Mushrooms	1938	198
646	Lincoff, G.H.	Audubon Society Field Guide to North American Mushrooms	1981	926
647	Minot, John	Notes on the Classification of Mushrooms	1989	212

Cultivation Corner

By Ken Litchfield, © 2003, klitchfield@randallmuseum.org

By the time you read this we will have finished with another successful Mushroom Day at the Randall Museum and we will be continuing with the further planting and enhancing of the Mushroom Garden at the Randall. We have lots of turkey tail, polypore, and oyster logs, mossy logs, and duff and pine needles recycled from the Fungus Fair with accents of ferns and shade plants. The Mushroom Garden, Native Plants Garden, and Hummerbumblebee Rock Garden were all available for exhibit on Mushroom Day. All the rest of the gardens including the Herb, Dino, Tropical, Carnivorous, Flower, Fiber, Dye, and Vegetable Gardens will be ready for display at the Grand opening for the Randall Gardens on Saturday, April 26th, so put that date on your calendar. We're having regular volunteer planting days for the Mushroom and other gardens several days a week, especially Mondays, so if you would like to get grubby and learn about how to grow any or all of these plants and fungi hands on, please contact me for scheduling.

We've also been revamping the Presidio Mushroom Garden; it will soon be converted to a more intensive and focused Mushroom Garden with herbs and some gopher unfriendly veggies.

Coming up on March 19 - 23, we're having an educational booth and mushroom garden vignette at the SF Flower and Garden Show. The Cultivation Committee will be putting in the garden display, we invite help with its set up, maintenance, and take down. The educational booth will need set up, take down, and monitoring by pairs of volunteers in shifts during the show.

Because there are so many activities and forays for the society during the rainy season it is a little difficult to find an open weekend to schedule lab seminars. Also, with the cooler temperatures, there is considerably slower culture growth than the warmer and less busy dry summer season. We have planned sessions on shitake log plugging, *Agaricus* on compost, agar tube making, and culturing with hydrogen peroxide. Your ideas and interests for other seminars are welcome. On Sunday February 23rd from 9am to 3pmish we will have the agar tube making class with Norm Andresen. If you would like to learn how to make agar tubes for capturing wild or grocery foraged cultures and would like to make your own stash of tubes please join us for another fun filled seminar at the Presidio lab. It's free to members and the \$25 fee for non-members includes membership so invite your friends. There will probably be a \$5-10 lab fee for materials. Call or email me with your personal information to sign up and I'll get you directions.

For those of you who like blewits, *Clitocybe* (or *Lepista*) *nuda*, they are pretty common right now. They are a wild mushroom that is relatively easy to transplant to your garden if you have a pile or mulch of well rotted wood chips or duff humus or partly broken down leaf mulch or just about any kind of organic matter. If you pull up the base with the mushroom you can cut off the cap and top half of the stem to eat. They are best while young and still purple, though the brown ones with still down curved edges are fine. Plant the base in your garden or a similar suitable spot in the wild where they aren't already growing. Also, sometimes you can cut off the stems half way up and leave the base in the ground. Come back later and it may have produced a new, malignant looking but still edible growth on top of the cut stem. They are pretty easy to recognize when not fruiting as even the mycelium is a pale violet purple. They are quite tasty and pretty purple in the pan if you cut the cap and stem into 1/4" slices and saute them in their own juices

until most of the liquid has evaporated. Then add a little olive oil to saute them a little, brown on the edges, and add a dash of salt. They have a rich, mushroomy flavor.

Ow! Ow! Ow! It's Candy Cap Season

By Debbie Viess, amanitarita@yahoo.com

Do you ever make noises when you hunt mushrooms? I do. Now, I know that it's best to be stealthy and silent. Attracting attention could result in a hefty fine if you're hunting in areas of marginal legality or, worse yet, the discovery by others of your secret patches. But sometimes, you just can't help yourself.

I used to find it difficult to keep silent when hunting morels. Clusters of morels, appearing as if by magic from a background of morel-like objects, would always elicit from me a grunt of appreciation. This sound would in turn be repeated by my hunting partner, and our low notes of discovery would echo across the landscape, alerting the other to both our whereabouts and those of the morels.

Exclamations over mushrooms are not always so discrete. David Arora, in his book *All That the Rain Promises, and More...* recounts the unbridled shrieks of joy expressed by a woman as she encountered new patches of mushrooms. These shrieks resulted in the police report of a possible crime in progress. But happiness is not the only cause of a mushroomer's mutterings.

Some folks like to hunt mushrooms because they consider them to be free food, but there's often a "blood price" to be paid. On a "road warrior" morel hunt, the payback may take the form of a broken axle, or a blown tire. Thrashing your way through the forest in pursuit of mushrooms may result in a sprained ankle or torn clothing, or even an unexpected titling to the mushroom gods of your favorite mushroom knife.

Sometimes that blood price is really blood, which brings me to candy cap season. In the East Bay, candy caps (*Lactarius rubidus*) occur under a variety of trees, mostly pine and oak, but often under a protective cover of brambles. On a recent hunt, tempting rivulets of *rubidus* ran down the hill, their roughened burnt-orange caps beckoning warmly. Grasp for them too quickly though, and those prickly vines will stop you cold.

After several painful attempts at painless extraction I finally wised up. Rather than my hand, my bolete knife bore the brunt of the brambles and pushed the vines away, clearing a path to my goal. Still my hands got scored. So did the candy caps, so fresh that their caps bled along with me, skimmed-milk white against ruby red. Meanwhile, I could hear my husband's progress through the underbrush, his intermittent cries of "Ow, ow, ow!" pinpointing his location. Later that day, we cleaned our mushrooms in preparation for a long slow drying and alternately picked blackberry stickers out of our hands. With scratches covering our hands, and candy caps covering our drying racks, we sighed in satisfaction. Another successful hunt, and dinner not bought, but surely paid for, one way or the other.

The Foragers' Report

By Patrick Hamilton, MYCOCHEF@aol.com

It's about a third of the way into our season, if it starts in late October with Sierra Fall boletes and ends early June, again in the Sierra, with Spring boletes. Sort of a circle of goodness about us, or maybe it's more of a halo—for the glorified hunter in us all.

We do indeed live in a mushroom paradise but with heavenly largess can sometimes come attendant problems that are not welcomed. We certainly are not all angels but perhaps the seraphim and cherubim amongst us could be leaders, guide us in washing off boots and sticks and vehicle tires when going from an area infected with Sudden Oak Death to another place. So that there might always be a better place.

Many messages have come directly to the Mushroom Information Center (MIC) this past month and through our mssf@yahoogroups Internet discussions. Dutifully presented herein are some repeated or reported for the first time.

At the Berkeley Bowl, *Amanita* eggs were seen being sold under the moniker "Goose Egg Mushrooms" and much talk surrounded the selling of any *Amanitas*. A question was raised concerning any liability insurance possibilities for the providers of mushrooms to markets. I know that at least one purveyor (Connie Green) uses God given better judgment and simply does not sell anything remotely "iffy" to restaurants. Commercial pickers will at times proffer interesting finds that are not mainstream regular menu items but she simply keeps them for herself and friends. Coccoli eggs are received but never sold. She once had some young *Amanita caesarea* that were sent from Mexico (commonly sold there and, of course, in Italy) and we sautéed them in an olive oil and butter mix until crisp along the edges and they were very, very good.

A mention of folks getting sick after eating *Sarcodon* at an East Bay restaurant brought up (no pun intended) (okay, maybe) for some of those on our yahoo list talk about just which species is edible and which is not. Mike Wood told us that *S. imbricatus* is mycorrhizal with spruce, and an excellent edible, while *S. squamosus* is mycorrhizal with pine (and was probably the culprit at that dinner). Since spruces do not grow in the Sierra any Hawk Wings found there will not be considered edible (though some say that if you poach it long enough, change the liquid, it is okay). For those who want to enjoy this mushroom, and other types, I suggest a trip to the Mushroom Festival in Telluride where I believe that I once saw Andrew Weil cooking *Sarcodon* for his and Paul Stamets' minions.

After a pretty good bolete season on the northern Sonoma coast and out at Pt. Reyes (Man on Horseback was found there too) foragers can now include our inland areas—hunt the hills of Napa and the East Bay, then down the Peninsula looking for Matsutakes, edible Russulas and Lactarii, Golden and White Chanterelles, Blewits and other fine stuff.

One of the more clandestine sources for this column told of White King Boletes (*B. barrowsii*) being found in central Sonoma county in mixed hardwoods.

Another quiet hunter mentioned poking around near Pt. Lobos (not in there, that would be wrong) and in the Del Monte forest and

finding the sloppy leavings of past pickers. Don't they realize that such disgraceful piles of mushroom parts are sure signposts shouting that, among other things, "Boletes grow here!". Around Bonny Doon some *Ramaria formosa* and old chanterelles were seen in late December. Golden Chanterelles could now be showing at your favorite patch. Check them out. Under the Monterey Pines along my drive in Cotati are now (01/07/03) growing lots of *Laccaria amethysteo-occidentalis*, a few *Suillus pungens* and soon there will be *Dermocybe phoenicea* which I will give to some dear dyer friends.

The Mushroom of the Month has been chosen and we have the Blewit. It has been placed in a variety of taxa, including *Tricholoma nudum*, *Clitocybe nuda*, and now *Lepista nuda*. The current scientific name doesn't matter much to kitchen collectors but what does is that this fungus can have many different tastes depending upon under which type of tree it may grow. If found with cypress it is probably best left but if picked under madrone or Live Oak a good meal can be had. A favorite preparation of mine is to use it in a good old-fashioned tuna casserole, instead of *A. bisporus*, or make tacos—blewits take to strong seasonings well.

That's all for now folks.

Foragers' Report Foray Finds

The following is a new feature of this column. The lists that are received at the MIC will be included here.

From Robert Mackler: "Dec. 12 in Redwood Regional Park (Oakland) in the vicinity of the archery range these were found. ID to species: *Bolbitius vitellinus*, *Hygrophorus hypothejus*, *Lepiota flammeotincta*, *Lepiota rubrotincta*, *Lepiota sequoiarum*, *Marasmius androsaceus*, *Mycena leptocephala*, and *Suillus pungens*. ID to genus: *Clitocybe* sp., *Hygrophorus* sp. and *Psathyrella* sp (2)." And "The species list for a foray at Roys Redwoods and Samuel Taylor State Park on a very wet Friday 13 is as follows: *Armillaria mellea*, *Boletus satanas*, *Caulorhiza umbonata*, *Daldinia grandis*, *Flammulina velutipes*, *Ganoderma applanatum*, *Hebeloma crustuliniforme*, *Hypholoma fasciculare*, *Mycena capillaripes*, *Mycena iodolens*, *Omphalotus olivascens*, *Pleurotus ostreatus*, *Schizophyllum commune*, *Stereum hirsutum*, *Trametes versicolor* and *Tremella mesenterica*."

Chad Thistle of SOMA reported this from their Sonoma county foray on December 14, 2002: "*Agaricus praeclaresquamosus*, *Agaricus subrutilescens*, *Amanita gemmata*, *Amanita lanei*, *Amanita vaginata*, *Armillaria mellea*, *Boletus aereus*, *Boletus edulis*, *Cantharellus formosus*, *Coprinus atramentarius*, *Crepidotus mollis*, *Entoloma rhodopolium*, *Fomitopsis pinicola*, *Galerina* sp., *Geastrum fimbriatum*, *Gomphidius glutinosus*, *Gomphidius oregonensis*, *Gomphidius subroseus*, *Hebeloma crustuliniforme*, *Helvella lacunosa*, *Hypholoma fasciculare*, *Lactarius rubrilacteus*, *Leucopaxillus gentianus*, *Lycoperdon perlatum*, *Macowanites* sp., *Phaeocollybia* sp., *Pleurotus ostreatus*, *Pluteus cervinus*, *Polyporus elegans*, *Ramaria araiospora*, *Suillus caeruleus*, *Tricholoma magnivelare*, and *Xerocomus zelleri*."

From Mike Wood on a foray near Willits: "*Agaricus subrutilescens*, *Alboleptonia sericella*, *Amanita gemmata*, *Amanita lanei*, *Astraeus hygrometricus*, *Boletus aereus*, *Boletus edulis*, *Boletus subtomentosus*, *Cantharellus subalbidus*, *Caulorhiza umbonata*, *Clitocybe* sp., *Clitocybe depressa*, *Collybia* sp., *Coprinus lagopus*, *Cortinarius* spp., *Cortinarius subfoetidus*, *Crucibulum laeve*, *Dacrymyces stillatus*, *Dacrymyces palmatus*, *Entoloma nidorosum*, *Galerina* sp., *Gomphidius glutinosus*, *Gomphidius oregonensis*, *Gymnopus* sp.,

Continued on page 11

SOD Quarantines and Scapegoats

By David Rust, president@mssf.org

The MSSF email group provides a constant exchange of information about mushrooms, club news and announcements - often peppered with requests for cooking suggestions and pleas for identification assistance. The conversational tone often turns from informational to contentious, as recently happened with what began as an innocent report of a newspaper article. What follows is a time-line summary of the discussion threads, and some quotes may not include the full text of the message.

I posted a link and summary of an article in the San Francisco Chronicle (12/18/2002), reporting on a Sudden Oak Death Science Symposium in Monterey the weekend of our fungus fair, that a new species of *Phytophthora* had been discovered in the Sierra, *P. nemerosa*, commingling DNA with the dreaded *Phytophthora ramorum*. Not so fast, replied MSSF member Kelly Ivors, "We have yet to find conclusive evidence that any reticulation, hybridization, or introgression of genes are occurring between the two species. I know this because I am the one doing all of the DNA studies on both these species." Kelly is working on *Phytophthora* with Matteo Garbelotto at UC Berkeley.

Kelly closed her message with a report that "during the SOD meeting in Monterey, the possibility of commercial mushroom pickers spreading *P. ramorum* was brought up many times, as possible evidence that mushroom pickers could have vectored the disease into Curry County, Oregon. There was talk of regulating/limiting mushroom picking in areas of Oregon." Based on this "insider" knowledge and wishing to lessen our potential culpability, Kelly added a plea to MSSF members to avoid hunting in SOD-infested areas. She asked that where people found themselves near lots of dead tan oaks, to be responsible and wash any potential spores off their shoes. The issue of commercial mushroom hunters is a long-standing hot button in the MSSF. Some twenty-two responses ensued.

David Campbell responded to the reported accusations of SOD meeting attendees by defending our right to access to the forest, and said that commercial mushroom hunters had no more impact than "recreational pickers, game hunters, rangers, scientific researchers, hikers, mountain bikers, mountain lions, bear, deer, squirrels, voles, birds or insects." He added, "Sounds like more prejudicial scapegoating to me. Interesting that discussion of regulation of a specific group of people is being considered as some sort of remedy before the 'problem' is even reasonably understood. Oh well, I guess we can all feel better if we have a 'whipping boy' to blame. That is hardly scientific, though.

"And, in 'regulation', we are talking about further usurpation of American citizens' right to access what's left of their own national forests. As a person who frequently goes into the woods to collect mushrooms for personal reasons, I am getting kind of sensitive about that persistent threat of exclusion, and am not inclined to entertain half-baked 'plans' based on elaborate suppositions fraught with words like 'might', 'could' and 'possibly' that may end up arbitrarily barring us from access.

"Sorry, but I do not get that warm tingling feeling from washing my boots back at the car after traipsing for hours through all kinds of habitat. Seems to me that if movement in the woods is causing the

problem, you just shouldn't move in the woods. You may have already been vectoring everywhere you just walked, even if you are on a special mission like a scientific researcher or policing forest ranger. So, if the entire Bay Area and beyond is infected to varying degrees, and it apparently is, then should no one go out anywhere, ever? I'm a long way from accepting that.

"Sure, every little bit helps, we can all feel a little better trying to do our part by rinsing our shoes, or car tires, (good luck effectively cleaning anything out in the woods, and try not to contaminate our forest with cleansing or antifungal agents, while you are at it) but this talk of 'rounding up the usual suspects' is knee-jerk nincompoopery engendered by pompous people attempting to execute their own political agendas."

Steve Pencall, resident of Riverside, CA, member of the Los Angeles Mycological Society and member of the MSSF since 1982, responded to Kelly's message this way:

"Many of us in the amateur mycological community have good reason to be suspicious of those who blame mushroom collectors, whether amateur or commercial, for real or imagined environmental problems. Environmental activists and even some "scientists" have been taking potshots at mushroom collecting for years with little or no evidence of the environmental damage that they allege. Perhaps they feel that mushroom collecting is something that they can actually 'do something' about, whereas they might feel powerless going up against large corporations or government agencies.

"Many of us are defensive about an avocation that has vastly less environmental impact than say, golf. Reading of yet another attack on mushroom collecting tends to get the hackles up. I, for one, am genuinely disappointed, but unfortunately not surprised, that someone would make this kind of highly speculative and unsupported statement at a scientific gathering. It is certainly possible that mushroom collectors 'could' be spreading *P. ramorum*. But overlooking the multiplicity of other human and animal vectors is a lapse of scientific judgment of truly staggering proportions.

"One has to ask why someone would make this kind of statement. Inevitably, some mushroom collectors will conclude, not without justification, that some scientists and others are exploiting the present near-panic over *P. ramorum* to suppress mushroom collecting, much as the ongoing panic over terrorism is being used to strip away hard-won civil liberties. It is unfortunately also almost inevitable that land managers and policy makers will cite these speculative concerns to bar us and other land users from vast areas of public land. Indeed there is already precedent for it with restrictions that have been in place in northern California and southern Oregon for several years to protect Port Orford cedar from a related *Phytophthora* species.

"It is obvious that those of us who collect wild fungi, whether amateur or commercial, have real work to do in regards to educating scientists and policymakers about what it is that we do. We can only hope that this statement was made on the basis of misinformation and not from some deep-seated and irrational animus against mushroom collecting."

Kitty Norris, an MSSF member who lives near Willits, responded later by thanking Kelly for her plea to be responsible about inad-

Continued on page 11

vertently spreading *P. ramorum*. “We are forest landowners,” said Kitty, “who like to think of ourselves as land and forest stewards. We wash boots, cars, walking sticks, etc., yes, even our clothes when we come and go from this area into others! We have many guests here, who enjoy the forest too - they all do us and the forest the courtesy and respect of washing and dunking before they come to visit. We are trying to at least postpone the inevitable for as long as humanly possible. Thanks for your voices of reason. And please, those of you who do not care enough to clean up and do what you can to avoid being vectors...stay out of my neighborhood, OK?”

In a private email to me, Kitty added, “I have two sets of forest clothing. One for here; one for other places. When I return from somewhere else off our mountain, it all goes in the washing machine, and the boots go in the sink with detergent and a scrub brush. I personally do not care what the manufacturers have to say about various cleaners. Clothing and boots are manufactured products and easily replaced when they wear out. Not so with a forest.

“I have been printing out the news reports that the MSSF group brings up, deleting all references to names and email addresses. These I have given to one of the mushroom buyers in Willits, who is working to educate the pickers. When I go to town and see the amount of mud on their vehicles, and the ATV’s in the back of their pickup trucks I shudder. As with the issue of raking the duff for matsutake buttons, education is a good way to protect the forests. The transient pickers come here, the last southernmost stop on the picking trail. If the buyers are part of the educational process, we can get the word out, whatever the topic may be. I have also posted the phytophthora notices on our community bulletin board, and am available to answer questions from neighbors.

“One of my concerns is the vast tracts of commercial timber land we have below us, between us and the coast and Jackson State forest. I see acres of star thistle everywhere in the county along roads, brought in by vehicles and equipment, and wonder what may be the similar consequences relating to phytophthora of the logging equipment brought in these forest lands.

“The amazing thing is that the timber companies use lots of Garlon to purposely kill hardwoods in the forestlands, because they are in a hurry to have evergreen trees grow. As you know, the natural forest succession is for the hardwoods to provide shelter wood for the evergreen seedlings. We have flown over areas of dead tanoaks, and see many acres of them from our house. These have been killed off by “forest management” and this practice is common in timber harvest plans. We are afraid that there will be inadequate funding to properly study phytophthora in commercial forest lands because the managers may be happy to let our little epidemic do the work for them.”

Mike Boom changed the subject slightly by asking why we are so defensive about our activities, as we may be acting as unwitting vectors for the disease. “As mushroom pickers we do tend to go to parts of the woods that most other people avoid, and as humans we have access to long-range transportation that most terrestrial creatures do not. It’s not unreasonable to look at our activities as a possible SOD vector. It’s not unreasonable on the flip side to realize that we’re just a small part of the larger picture and that our activities may not have much additional impact.

“The scientific process requires floating hypotheses, looking at

data, shooting down invalid hypotheses, and confirming others. If we cry foul and go ballistic just because we find that one hypothesis cramps our lifestyle we’re not helping to find an answer. We need to be objective, consider the possibility that the activities we love may harm the forests we love, and try to help gather data to get to the truth wherever it lies. And we need to be patient while research continues.

“If forest managers try to bar our activities before we have data that they’re actually harming forests, then we can go ballistic. In the meantime, wash your boots. Dead forests are lousy places to pick mushrooms.”

Kelly Ivors brought the issue back to quarantines and commercial interests. “SOD is a complex federal and state issue. Millions of dollars are being lost to SOD through various agricultural and forestry industries. California is the largest producer of agricultural products in the U.S. Don’t think these industries have gone unaffected! Wild mushroom collecting is way down on the list, if not at the bottom. The problem with *P. ramorum* is that it involves very HOT political issues besides agriculture, such as timber production and regulation of timber harvest. These industries bring [a lot of revenue] to the State of California. These issues will become even more relevant since SOD has been identified recently in National Forest and BLM lands. I guess it’s not knowing the full effects of SOD that poses such a threat. It causes agencies to act irrationally and impose ‘all or nothing’ rules, which would include the regulation of hikers or naturalists, even mushroom hunters in affected areas.”

Steve Pencall responded, “The real noise is coming from land managers, local, state and federal, many of whom really, really, don’t like commercial harvesters and whom often don’t especially like amateur collectors either, if indeed they draw a distinction between the two groups - many don’t. To me, it looks like some of these officials may think that they have found a “magic bullet” to keep collectors out of the woods.”

There was more... but you’ll have to join the MSSF email distribution group to read it: instructions to do so can be found at www.mssf.org in the members’ only area.

Additional information about the SOD Science Symposium can be found at: <http://danr.ucop.edu/ihrmp/sodsymposium.html>

Membership and Subscription Information

To Join the MSSF and receive this newsletter, send a \$25 check, payable to MSSF (\$20 for seniors 65 and over and full time students), to MSSF Membership, Attn: David Bartolotta, 2750 Market St., Suite 103, San Francisco, CA 94114-1987. Please include contact information: home and/or work phone numbers and e-mail address. New and renewal memberships will be current through December of 2003. To change your mailing address, please notify David. MSSF members may also join or renew membership in the North American Mycological Association at a reduced rate by including with their MSSF check a separate check for \$32 payable to NAMA. Send it to David at the same address. For further information, e-mail David at david@bartolotta.com or call (415) 621-3166.

Commentary: Scapegoating Mushroom Pickers Is The Wrong Way To Stop Sudden Oak Death

by Steven Pencall, spencall@gmwm.net

A recent post on the MSSF email discussion list revealed that some attendees at a conference on Sudden Oak Death held in Monterey in December 2002 reportedly blame commercial mushroom pickers for the spread of SOD into parts of southern Oregon. The evidence linking mushroom pickers to the outbreak of SOD is circumstantial at best and completely disregards considerable evidence that long distance transport of small amounts of soil on boots, tires or collecting implements is not a very effective way to spread SOD. The most effective method of spreading the disease is transport of the pathogen *Phytophthora ramorum* on living nursery stock, as MSSF President David Rust discussed in a later post on this subject.

Even if it were known that humans *are* efficient vectors of SOD are we to believe that mushroom pickers are the ONLY people who go into these areas? What about hunters, hikers, fishermen, bird watchers, mountain bikers, loggers and others? What about terrestrial mammals and birds? Why are mushroom pickers being singled out for special scrutiny?

The attendees so eager to finger mushroom pickers for spreading SOD are apparently land managers for various government agencies. Regrettably, some land managers appear to be exploiting the crisis to get in some cheap shots at a group they don't like—mushroom pickers, especially commercial mushroom pickers. Don't think that you are unaffected if you are an amateur collector because the collecting tools and techniques used by amateur and commercial pickers are very similar. And as we have seen, many land managers make no distinction between commercial or amateur collectors. They consider us all just "mushroom pickers."

Do land managers feel they have to kick a small and powerless group so they can show their superiors they are "doing something"? Sadly, some land managers seem to have slipped easily into a "round up the usual suspects" mindset.

Like it or not, SOD containment strategies depend heavily on voluntary compliance from forest users. SOD containment and suppression policies should be based on the best available science, not individual or institutional prejudices. We should cooperate with reasonable, scientifically valid measures in an effort to prevent the spread of SOD. However, land managers must recognize that punitive and arbitrary measures that antagonize people will fail. Demonizing ANY group of forest users is a dangerous mistake that only hinders efforts to stop Sudden Oak Death.

* *The opinions expressed are those of the writer and are not official positions or opinions of the Mycological Society of San Francisco or its officers.*

MSSF Policy Regarding Phytophthora Ramorum

(Amended 1-14-2003)

The presence of a new pathogen, *Phytophthora ramorum*, in Northern California will have dramatic and long-lasting effects on the ecology and diversity of mixed oak woodlands. As more is known about this disease and how it is spread, the role of the Mycological Society of San Francisco will be to educate its members and the public, and to recommend actions to minimize its impact.

We, therefore, ask that all users of public lands learn the signs of *Phytophthora* and methods to prevent its spread. At this time, it is highly recommended that leaves, soil and firewood should not be removed as they carry the highest number of spores.

The most obvious actions people can take are to avoid going to areas where the disease is present, consult with local resources, respect state and county quarantines and trail closures, and use disinfectants to remove spores when leaving infected woodlands.

It is especially important that MSSF members who collect and study mushrooms for personal use take special care not to cause *P. ramorum* to be transported into uninfected areas by taking the following steps:

If you visit a woodland with symptoms of *P. ramorum*, knock off any loose soil or mud while still in the area. Where practical, use a disinfectant spray or dilute bleach solution to kill any remaining spores and rinse off your hiking boots and vehicle tires with water.

When visiting areas with no visible symptoms of the disease, wear a set of "clean" clothing and boots to avoid inadvertently introducing the disease to a new area.

Foragers' Report

Continued from page 8

Gymnopus dryophilus, Hebeloma sp., Hebeloma crustuliniforme, Hygrophorus eburneus, Hypholoma fasciculare, Hypomyces chryso-spermum, Inocybe sp., Laccaria amethysteo-occidentalis, Lactarius subvillosus, Lactarius xanthogalactus, Lenzites betulina, Lepiota castanea, Lepiota chyeolarioides, Lepiota magnispora, Lycoperdon marginatum, Lycoperdon nigrescens, Lyophyllum decastes, Marasmius copelandii, Marasmius quercophyllum, Micromphale arbuticola, Micromphale sequoiae, Mycena sp., Mycena abram-sii, Mycena haematopus, Mycena pura, Nidula candida, Nolanea sp., Oligoporus sp., Paxillus involutus, Phaeocollybia sp., Phaeocollybia olivacea, Pleurotus ostreatus, Psathyrella sp., Ramaria leptiformosa, Rhizopogon sp., Russula subalutacea, Russula stuntzii, Russula pelargonica, Sarcodon scabrosus, Simocybe centunculus, Stereum striatum, Suillus caeruleus, Suillus lakei, Trametes versicolor, Tremella mesenterica, Trichaptum abietinum, Tricholoma focale, Tricholoma magnivelare, Tricholoma saponaceum, and Vascellum pratense."

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February, 2003 vol 54:2

MSSF Calendar, February, 2003

Monday, February 3, Culinary Group's Monthly Dinner: 7:00 p.m. Come and join us for Crab Cioppino at the monthly culinary group dinner at the Hall of Flowers Library, Golden Gate Park in San Francisco. For reservations or information, please contact Alvaro Carvajal at (415) 695-0466 or at alvaro.carvajal@att.net

Saturday, February 8, Salt Point Foray: Meet at the Woodside campground parking lot at 10:00 a.m. We will go out looking for Black Trumpets, Hedgehogs, and Winter Chanterelles. This will be rain or, shine so bring rain gear if rain is likely. Some of us may spend the night at the Gerstel Cove campground and fix up our finds for a group dinner. For information call Mark Lockaby at 510-412-9964, cell 510-847-0817 or e-mail pozer900ss@aol.com

Saturday, February 8, CALS Workshop: An Introduction to the Foliose and Fruticose Lichens. Darwin Hall, Rm. 207, Sonoma State University, 10 a.m. to 4 p.m. Contact Judy Robertson at jksrr@aol.com or 707-584-8099.

Tuesday, February 18, MSSF General Meeting: Randall Museum, doors open at 7:00 p.m., lecture starts at 8:00. Our speaker, Michael Kuo, hopes to lead a lively discussion reviewing "everything we know about morels".

Sunday, February 23, Cultivation Seminar: Learn how to make your own agar tubes for capturing wild or grocery fungal cultures. At the Presidio lab from 9 a.m. to 3 p.m. Free to members, \$25 fee

to nonmembers, which includes a membership. Lab fee of \$5 - \$10. For sign up and info, contact Ken Litchfield at 415-863-7618 or klitchfield@randallmuseum.org

2nd and 4th Thursday of every month, CALS Workshop: Ongoing Lichen Identification Workshops. Darwin Hall, Room 201, Sonoma State University, 5 pm. to 8:30pm. Contact Judy Robertson at jksrr@aol.com or 707-584-8099.

Saturday, March 1, CALS Field Trip: Fairfield Osborne Preserve, 6543 Lichau Road, Penngrove, Sonoma County 10 am. to 3 p.m., Contact Judy Robertson at jksrr@aol.com or 707-584-8099.

Monday, March 3, Culinary Group's Monthly Dinner: 7:00 p.m. Come and join us for the monthly culinary group meeting and dinner at the Hall of Flowers, Golden Gate Park in San Francisco. For reservations or information, please contact David Campbell at (415) 457-7662 or at yogidog@attbi.com

Wednesday, March 19 - Sunday March 23, S. F. Garden Show: More information will be forthcoming on MSSF activities at the show.

Monday April 7, Culinary Group's Monthly Dinner: Come and join us for the monthly culinary group meeting and dinner at the Hall of Flowers, Golden Gate Park in San Francisco. For reservations or information, please contact Alvaro Carvajal at (415) 695-0466 or at alvaro.carvajal@att.net