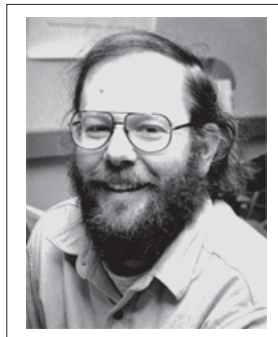


**Speaker for
March 21
MSSF Meeting**



Dr. Tom Brunns

**Observations on the Fungi of
Point Reyes National Seashore**

Dr. Tom Brunns returns to present an educational and entertaining talk about the natural histories and distributions of individual fungal species at Pt. Reyes National Seashore. He had several study plots at Pt. Reyes for a decade before the epic Mt. Vision fire, which burned over 12,000 acres there in October 1995. He used the fire as a starting place to document changes in mycorrhizal fungi in the decade that has followed. His stories will include species that have been intensively

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Myцена News

The Mycological Society of San Francisco March, 2006, vol 57:03

**MycoDigest: Myco-Heterotrophs:
Hacking the Mycorrhizal Network**

Peter Werner

In discussions of symbiosis, it is often pointed out that close mutualistic relationships (in which both partners benefit) and parasitic relationships (in which one partner benefits at the expense of the other) are fundamentally similar and only differ in the degree of overall benefit to the host. In this view, a symbiont can shift from a parasitic to a mutualistic relationship with its host over evolutionary time. Sometimes, a symbiont may even be mutualistic or parasitic at different phases of its life cycle or that of the host.

This has been an important question in the study of the evolution of mycorrhizas – did any of the various types of mycorrhizal fungi evolve from parasitic ancestors? And do mutualistic fungi ever switch gears and become parasites. Recent study of monotropoid and orchid mycorrhizas have demonstrated that parasitism does take place in these systems, but from an unexpected source – the plant partner in the mycorrhizal symbiosis.

For over a century, it's been observed that some plants did not contain chlorophyll and therefore needed to get their food heterotrophically (that is, from another organism, living or dead). Such plants were termed “saprophytes” and were thought to get their food from the breakdown of soil organic matter. (Until recently, the term “saprophyte” was also used to describe fungi that obtained food in this way, though the suffix “-phyte” means plant. Such fungi are now more accurately called “saprotrophs” or “saprobes”.) Other authors hypothesized that the roots of these saprotrophs directly parasitized the roots of other plants, though no direct root-to-root contact was ever demonstrated.

Though evidence of “myco-heterotrophic” or epiparasitic (that is, parasitic upon another parasite) nature of *Monotropa* was first noted by Franz Kamienski in 1881 and again by pioneering mycorrhizist AB Frank in 1892, this hypothesis was largely ignored for the better part of a century until 1960, when Erik Björkman conducted radioisotope experiments demonstrating the movement of carbon from spruce trees to *Monotropa*, and that fungi were involved in this carbon flow. Further investigation into the nature of mycorrhizas with monotropes and achlorophyllous orchids and the fungal species involved did not begin until the mid-1980s.

Since this time, new tools have become available to aid investigators in better understanding the nature of the relationship between epiparasitic plants and their fungal associates. DNA sequencing and other molecular techniques have made it possible to identify root and soil fungi that may lack fruiting bodies or other clear morphological features that mycologist have traditionally used to identify fungi. Also, analysis of stable isotopes (non-radioactive isotopes of various elements, such as

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MycoDigest is a section of the Myцена News dedicated to the scientific review of recent mycological information.

THE PRESIDENT'S POST

It has been quite a roller coaster ride for mushroom gathering of late, what with bountiful fruitings of many of our favorite collectibles eventually drowning with too much rain, then desiccating in a drought. Now it is cold and wet again, and many of the golden chanterelles still left in the Marin woods I frequent are rotten and waterlogged from the excess moisture, or shriveling at the cap margins from the extended warm dry spell. Likewise, black trumpets seem to be having their weather difficulties, with many recent finds suffering the dreaded "rubber lip" syndrome. Not that there are not a few viable collectables remaining...

Usually, around this time of year, my thoughts turn to other aspects of my life that need attention, that have been ignored as my waking thoughts are consumed by visions of irresistible mushrooms dancing in the woods up and down the coast. Yes, it's finally that time when I finally start thinking about...the mountains and morels! Members should monitor the calendar sections in upcoming *Mycena News* editions for announcements of MSSF-sponsored springtime Sierra morel forays.

This year's Esteemed Volunteer List has been compiled and posted on our website, honoring those who have significantly served the mission of the MSSF during the past season. The list is primarily composed of Council members and Fungus Fair volunteers (the annual Fungus Fair is by far our single most significant annual event!), with a few other miscellaneous notable supporters included. This list doubles as the invite list for our annual Volunteer Appreciation Day fete. Please review the list for omissions, and bring any missing names, including your own, to my attention for prompt correction.

Speaking of volunteers, our dear MSSF Secretary, Carol Hellums, has graciously stepped forward to handle this month's *Mycena News* editorial duties. Our regular editor, Bill Karpowicz, is on a jaunt to Chile, no doubt investigating what the southern hemisphere has to offer for the intrepid mycophile. Thank you Carol, and Bill, for assuming responsibility for this oh-so-important MSSF task.

Those of you who have taken advantage of the MSSF Library know what an incredible collection of publications we possess for the benefit of our membership. The bad news is that the housing for our books has long been rather sub par, as the library location has been out of the way and split into two cabinets in different rooms. The good news is that the Library Committee, currently co-chaired by Denise Gregory and Monique Carment, has initiated a refurbishment plan that will consolidate all of our books into one location in the downstairs hall of the Randall Museum, storing the books into new custom-made cabinets, properly designed for easy membership access. MSSF Council member Dan Long, a professional cabinetmaker when he's not foraging for mushrooms, has agreed to focus his efforts on building and installing the

lockable shelves for us. Watch for *your* new MSSF Library, coming soon. Thank you, Dan!

The SF Garden Show is coming up. Last year, Cultivation Chair Ken Litchfield and team won a silver medal for their MSSF display! That was quite an achievement, especially considering the mighty commercial entities entered in the competition. Nonetheless, the Cultivation Committee is not resting on their laurels, going for the gold this year! Ken is always looking for volunteers to help with creating the display, and for bodies to people the booth during exhibition hours. Give him a call if you'd like to get involved representing and publicizing the MSSF at this grand event.

Members should remember that the MSSF is nothing but the people who step forward to create and operate it. If you are not clear on how you can participate in making your Society ever more pertinent, worthwhile and evolving, please feel free to contact me or any Council officer or Committee Chair for suggestions and direction. We, and in this instance that word really means *you*, can always use more help.

March Speaker

Continued from page 1

studied as part of ongoing research on bishop pine mycorrhizae, and some of the interesting finds from the two recent MycoBlitz forays. As chief mycologist of the MycoBlitz forays, he will lead a discussion about how the coordinated efforts of all the mycological clubs in the Bay Area can be developed into a useful teaching and research tool. Discussion of these goals will be encouraged.

Dr. Bruns is Professor, Department of Plant and Microbial Biology, and Professor, Department of Environmental Science, Policy, and Management, at the University of California, Berkeley. Research projects currently underway in the Bruns Lab include: the ecology of ectomycorrhizal fungi, the evolution of rust fungi, the evolution of the ectomycorrhizal basidiomycetes, and the population genetics of the root-rot pathogen, *Heterobasidion annosum*. Dr. Bruns is an honorary member of the MSSF and has been a member since 1988.

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The Foragers' Report

March 2006

Patrick Hamilton

Boy, this mushroom year is moving by fast. You go girl!

Soon it will be time to figure out which burn (are there any?) will warrant our early-season ventures. Many of us have patches for naturals that we go pick just to get a feel for the morel season and those trips usually take place in late March or early April. Landscape morels are already fruiting in spots around our Bay Area, so go look for yourself at any recently planted areas—with red fir chips especially.

The black chanterelles continue to fruit and those of us who dry them don't care if they are getting brown because, hey—that is closer to dried. Thank you Mother Nature. Hedgehogs had a heck of a season in the North Bay. Cute and little umbilicatum, lovely and large rapandum, and in pretty big numbers too, were harvested, especially in the far North Bay. I was lucky to go on a rare (for me) look-see at the many golden chanterelles growing in the East Bay Municipal Water District lands. My oh my they did look pretty. Candy caps still are out (February 19). Nice. I have heard that blewits did a nice thing further south and east, but in Marin and Sonoma counties it was a so-so year for them.

Some folks who were confused as to the exact boundaries of Kruse Rhododendron Reserve (KRR) in Salt Point SP had an encounter with famed, all seeing, Ranger Wood in late January. He told them that they (considering who *they* were. . .) should have known better. He was told that there are no boundary signs on any trees, anywhere. He said something about how informed people should see that the older trees in the KRR woods show that no logging has been done there in over 150 years so they should have known even without an exact marker that they were in an area with older trees and the more recently logged SPSP is easily recognized as where it is legal to pick and, "Throw your mushrooms away." That cleared things up, all right.

The price to commercial pickers for black chanterelles dropped to \$1 a pound in mid-February, but that didn't seem to affect the price at any of our upscale markets, where they continued to sell for as much as \$29.99. Do people really pay that for them? Speaking of the worth of wild mushrooms: how many of us would pay, say, maybe, \$15.00 a pound for porcini, \$20.00 a pound for morels, etc.? Hmmm? The Petaluma Mushroom Farm is being forced to close because of the stench of its compost operation. That is way too bad for a lot of reasons, not the least of which is that they have donated

well over a hundred pounds to the annual SOMA Camp. *A. bisporus* usually sell for about \$2.99 a pound and they are absolutely worth it. \$29.99 for blacks. . . ?

There is a well-known fact in restaurant kitchens that if the price of onions went up to—whatever—chefs would still pay. Onions are necessary to just about any type of cuisine. What if we had to pay for the wild mushrooms we so easily gather? Have they become indispensable to our cooking? Well, a good recipe idea is always necessary and here is presented a doozie. This very seasonal dish was adapted from the Mendocino Bistro's award-winning crab cake, cabbage salad, and tarragon aioli recipes. By adding butter-poached golden chanterelles we can make them our own. Try these ocean delights with a very crisp Lake County Sauvignon Blanc.

Crab Cakes with Butter-Poached Chanterelles

Serving Size: 4 (2 cakes each) Preparation Time: 0:45

INGREDIENTS:

Cabbage Salad:

1 head green cabbage, sliced thin
Sea salt
1 bunch chives, finely chopped
1/3 cup white wine vinegar

Crab Cakes:

1½ lbs. Dungeness crab meat, fresh picked
¾ cup (plus additional) panko crumbs
1 cup butter-poached golden chanterelles, chopped small (see note)
2 scallions, finely chopped
2/3 cup tarragon aioli (see recipe below)
vegetable oil for frying

DIRECTIONS:

Salad:

Toss cabbage with the salt and let sit 30 minutes. Drain, squeeze, add chives and vinegar. Set aside.

Crab Cakes:

1. Drain crab, gently squeeze excess moisture out, and combine with 3/4 cup of the crumbs, chanterelles, and scallions. Rest 10 minutes and then add 1/2 cup of the aioli and test the mixture to see how it holds together (it can be not too tight—they should barely hold together). Form into eight 2-3/4" cakes, about 1½" thick. On a plate place one side only into more crumbs.

2. Sauté the cakes in hot oil over medium high heat, crumb side down, until golden (don't crowd). Reduce heat to medium and cook until heated through.

3. Mound 1/3 cup of the cabbage salad on a plate, top with cake, dab with aioli if desired.

Continued on page 6

And the Winner Is...

The program at the February general meeting was a departure from our usual format: a photo contest. Each entrant showed ten photos, and a team of four knowledgeable judges, with the help of cheers and applause from the audience, selected the winning photographs. Honorable mention awards went to Curt Haney, Peter Werner, and Ron Pastorino. (It should be noted that Ron has won numerous NAMA slide contests for his work; however, the slide projector didn't throw enough light to bring out the best of Ron's slides. The other entries were all digital photographs.) Fourth prize went to Dimitar Bojantchev, third to Mike Paquet, second to J. R. Blair, and first to Hugh Smith. The top prize winners are shown on these pages. More contest photos can be seen online in the MSSF discussion group on Yahoo (see p. 6).

It was a great opportunity to see the work of some of our talented MSSF photographers. Thanks to the judges, who had the tough task of selecting a few winners from among the many fine photographs. They were Mike Boom, Louise and Bill Freedman, and Tom Sasaki.



First Prize, Hugh Smith: *Gymnopilus spectabilis* (Big Laughing Mushroom)

Hugh Smith does most of his mushroom forays in Northern California and along the Pacific Coast, and says he carries his camera wherever he goes. Since childhood he has been fascinated with nature, and he began photographing mushrooms soon after being taken on his first mushroom hunt. You can see more of Hugh's pictures on his new website: <http://www.hughsmith.org/>

The Runners-Up



Second Prize, J. R. Blair: *Gymnopilus luteofolius*

J. R. contributed some additional comments about his mushroom, "the charismatic *Gymnopilus luteofolius*. This is a fairly common litter decomposer, found on pine chips in this case. It is similar to *Tricholomopsis rutilans* (plums and custard) but has rusty-orange spores rather than white and has an annulus. They also are characterized as being cute as a button when young. Interesting that the top two winners are Gyms".



Third Prize, Mike Paquet: *Trametes versicolor* (Turkey Tail)

Mike's comments on his photo: "The photo I shot was of the ubiquitous *Trametes versicolor*, taken with a Fuji Digital S500, which has a built-in macro lens. I converted the raw data to a tiff image and performed minor contrast and color modifications using Graphic Converter, a shareware program which is much easier to use than Photoshop. I took the photo above Pinehurst Canyon along the Oakland/Contra Costa County line. The mushroom was on a downed California bay log with bay and coastal live oak as the predominant trees. I took the photo in March of 2005."



Fourth Prize, Dimitar Bojantchev: *Amanita franchetii*

The photograph was taken using a Nikon D70 with a Sigma Pro 28-200 (zoom) lens and built-in flash. Location was Pt. Reyes, near Mt. Vernon, on 2005-12-10 (the first Pt. Reyes MycoBlitz foray).

Foragers' Report

Continued from page 3

NOTE: Pull washed chanterelles into thin strips and poach over medium heat in unsalted butter until all the water has boiled off and the mushrooms are golden and a bit crisp on the edges (about 20 minute

Tarragon Aioli

Serving Size: 4

Preparation Time: 0:15

2 egg yolks
 3 cloves garlic, cut into thirds
 1 lemon, juiced
 ½ tsp. kosher salt
 1 dash Tabasco sauce
 ¼ cup very hot water
 2 cups mild olive oil
 ½ bunch tarragon leaves, finely chopped

Process, or blend, the yolks, garlic, juice, salt and Tabasco. Pour in hot water and blend 15 seconds. With the machine running slowly add the oil (typically). Stir in the tarragon.

That's all for now folks!

Cultivation Corner: The Hobbit Child's Mushroomscape at the San Francisco Flower and Garden Show

Ken Litchfield

This is a reminder that we are still accepting MSSF volunteers to set up, take down, and staff the society's exhibit at the SF Flower and Garden Show at the Cow Palace in San Francisco, March 10 through March 21. Show dates are March 15-19. For further details, please read the related article in the February 2006 issue of *Mycena News*.

Volunteers can contact Ken Litchfield at 415-863-7618 or klitchfield@randallmuseum.org or Sherry Carvajal at 415-695-0466 or sherry.carvajal@sbcglobal.net.



MSSF Discussion Group on Yahoo Groups

The MSSF email discussion group facilitated through Yahoo Groups is a great way to keep in contact with other members and is one of the primary ways in which members keep up on news about the Society. The list features often-intriguing discussion of fungal-related topics, tips about current fungal activity, and up-to-the-minute news about MSSF functions.

The list is available in both individual-message and digest formats. Additionally, you can also subscribe to the group in "Special Notices" mode. That means that if you wish to receive only official announcements from the society and not email traffic from other members, you can subscribe using this method. (Subscribers to the list in regular and digest formats also, of course, receive official announcements in addition to posts from other members.)

To sign up, go to:

<http://groups.yahoo.com/group/mssf/>

Follow the link that says "Join This Group". (You will need to sign up for a free Yahoo Groups membership if you do not have one already.)

Fungus Fair 2006 Poster Art: Call for Entries

Though it may seem a bit early to start thinking about next December's Fungus Fair, the promotional poster for the fair needs to be in the works well in advance. This year we will begin now with a call for artwork for the poster. This will allow time for selection and tweaking of the artwork well before fair preparations start cranking up in September.

If you have or would like to create any drawings, paintings, photographs, spore prints, or any other two-dimensional artwork depicting mushrooms that you think would be attractive candidates to promote the fair, please consider submitting them. Any of the entries may also be considered for the T-shirt, so the artwork should be made to use for both purposes.

Please submit your artwork to J. R. Blair or David Campbell by May 1st. You should be an MSSF member; if you are not, you can join for \$15 for an annual electronic membership, or \$25 for a printed newsletter.

Edibles: Us

Dan Long

I was elated. I was walking down a trail in a remote area that nobody knew about, or so I believed. No human footprints or signs that anybody had been around for quite some time. Where were the candy caps? Suddenly I saw a pile of scat in the middle of the trail, including small bones and fur. Yikes!!! A carnivore and I was by myself, three miles from the car. I had not even told anyone I was mushroom hunting, much less where I went. I had an immediate urge to be back at the car. Is there anything more powerful than fear?

Later, at home, I started to look for mountain lion information to avert the possibility that I would become mountain lion scat in the middle of some obscure trail somewhere, spooking somebody. About that time, someone posted a picture of a mountain lion track on the Yahoo group web page to further my fears. That track turned out to be a dog print. At that point I thought that it would be helpful to our group if I took some of the information I was coming across and wrote this story to shed some light on the odds of being eaten.

The mountain lion is secretive, and the sight of one is rare. Only by accident will you spot a mountain lion unless you are with an expert guide. If you have the good fortune to see one, it will likely flee the minute it sees or smells you. Generally, the mountain lion is calm, quiet and elusive. It is commonly known as cougar, panther or puma. It is tawny-colored with black-tipped ears and tail, and a white undercarriage. Although it is smaller than the jaguar, it is one of North America's largest cats.

Adult males may be more than 8 feet long, from nose to end of tail, and generally weigh between 130 and 150 pounds. Adult females can be 7 feet long and weigh between 65 and 90 pounds. Its life cycle is about 12 years in the wild. Mountain lions have from one to five cubs at a time, generally two years apart. Young lions need about two years to develop enough skill in hunting to make their own living. Male territories range from 15 to 30 square miles, and females range from 5 to 20 miles. They hunt in a radius of 30 to 50 miles. A mountain lion's territory sometimes is not one large area but rather several separate ones connected by pathways. They mark their territory and pathways with visible spots of feces and urine. Territorial pathways may overlap, but if the animals meet, one will always defer to the other, rather than risk injury by fighting.

Mountain lions usually hunt alone at night. In dim light, most cats see up to six times better than humans. They hunt by stalking, getting to within a few yards of their prey before lunging in for the kill. They have great speed for short distances and can leap 20 to 23 feet from a standstill. They prefer to ambush their prey, often from behind. They usually kill with a powerful bite below the base of the skull, breaking the neck. They often cover the carcass with dirt, leaves or snow and may come back to feed on it over the course of a few days.

Individuals develop a preference for one type of prey (one may prefer rabbits, another deer), which limits competition with one another.

The status of the mountain lion in California has evolved from that of "bountied predator" (meaning monetary incentives were offered for every mountain lion killed) between 1907 and 1963, to "game mammal" in 1969, to "special protected mammal" in 1990. In 1920, a rough estimate put the mountain lion population at 600. Since then, more accurate estimates, based on field studies of mountain lions, revealed a population of more than 2000 mountain lions in the 1970's. Today's population estimate ranges between 4,000 and 6,000.

The following suggestions are based on studies of mountain lions' behavior and analysis of attacks by mountain lions, tigers and leopards.

Do Not Hike Alone: Go in groups, with adults supervising children.

Keep Children Close To You: Observations of captured wild mountain lions reveal that the animals seem especially drawn to children. Keep children within your sight at all times.

Do Not Approach a Lion: Most mountain lions will try to avoid a confrontation. Give them a way to escape.

Do Not Run From a Lion: Running may stimulate a mountain lion's instinct to chase. Instead, stand and face the animal. Make eye contact. If you have small children with you, pick them up if possible so they don't panic and run. Although it may be awkward, pick them up without bending over or turning away from the mountain lion.

Do Not Crouch Down or Bend Over: In Nepal, a researcher studying tigers and leopards watched the big cats kill cattle and domestic water buffalo while ignoring humans standing nearby. He surmised that a human standing up is just not the right shape for a cat's prey. On the other hand, a person squatting or bending over looks a lot like a four legged prey animal. If you're in mountain lion country, avoid squatting, crouching or bending over, even when picking up children. (As mushroom hunters, we are all doomed!)

Do All You Can To Appear Larger: Raise your arms. Open your jacket if you are wearing one. Again, pick up small children. Throw stones, branches, or whatever you can reach without crouching or turning your back. Wave your arms slowly and speak firmly in a loud voice. The idea is to convince the mountain lion that you are not prey and that you may be a danger to it.

Fight Back If Attacked: A hiker in Southern California used a rock to fend off a mountain lion that was attacking his son. Others have fought back successfully with sticks, caps, jackets, garden tools and their bare hands. Since a mountain lion usually tries to bite the head or neck, try to remain standing and face the attacking animal.

Continued on page 8

Edibles: Us**Continued from page 7**

This is a good website that shows you how to differentiate between dog prints and mountain lion prints:

<http://www.bear-tracker.com/caninevsfeline.html>

This is a website that lists mountain lion attacks on people in California since 1890, some with graphic descriptions:

http://tchester.org/sgm/lists/lion_attacks_ca.html

Other websites used for information are:

<http://www.395.com/generalinfo/mtlion.shtml>

<http://www.projectwildlife.org/living-mountainlions.htm>

<http://california.sierraclub.org/mountain-lion/safety.html>

<http://www.dfg.ca.gov/watchable/mtlionbro.pdf>

Mycodigest**Continued from page 1**

carbon-13 or nitrogen-15) has become increasingly sophisticated and now allows researchers to track the flow of nutrients through an ecosystem.

Mycro-heterotrophy has been found to be more widespread than previously thought. All achlorophyllous plant species studies so far have been shown to be completely dependent upon parasitized fungi as a carbon source. Additionally, a number of species of chlorophyllous plants found in low-light habitats (including chlorophyllous orchids, gentians, and the gametophytes of several species of liverworts, lycophytes, and ferns) have been found to be at least partially myco-heterotrophic.

In most cases, the fungi involved are also engaged in a mycorrhizal relationship with other plants. Many ectomycorrhizal species, including *Russula* and *Tricholoma*, have been observed to be parasitized by myco-heterotrophs, and several years ago epiparasitism of arbuscular mycorrhizae (by gentians) was observed for the first time. Also, a few cases of myco-heterotrophs parasitizing major plant pathogens like *Armillaria* have been reported. It is therefore the case that these epiparasitic plants are ultimately drawing carbon from the rest of the plant community.

This epiparasitism can be seen as a very clever adaptation on the part of the plant. Carbon is often shared between plants sharing the same fungal symbionts as part of a “common mycorrhizal network” (as Peter Kennedy wrote about in the November MycoDigest). Plants are adapted to allow infection by a large number of mycorrhizal fungi and to sometimes allow the net flow of carbon to other plants. They are ill-equipped to detect “cheaters” in this system – plants that take carbon but never return it. As long as the epiparasitic plant does

not end up compromising the fitness of the fungus, the long-term stability of their food source is assured. The ancestors of myco-heterotrophs, like most plants, are likely to have been mycorrhizal; the loss of chlorophyll and the resulting “cheating” of the common mycorrhizal network came later.

Several studies have found that the relationship between myco-heterotrophs and their fungal symbionts is very specific, with a single plant species or group of species associated with a similarly small group of fungi. For example, the bright red snow plant (*Sarcodes sanguinea*) of the Sierra Nevada is associated exclusively with *Rhizopogon ellenaee*, while sugar stick (*Allotropia virgata*) is associated exclusively with matsutake mycelium. (The blooming of sugar stick in spring is therefore a useful indicator of where matsutake may fruit in fall.) A recent study by Martín Bidartondo and Tom Bruns indicates that in the case of pinedrop (*Pterospora andromedeae*), different co-occurring phenotypes within the same population are each associated with symbiosis with different species of *Rhizopogon*.

There is still much to be learned concerning the plant (and fungal?) parasitism of mycorrhizas and mycorrhizal networks. How widespread is partial myco-heterotrophy in the plant kingdom? Do fungi ever “cheat” the mycorrhizal system? What feedbacks (if any) are present in the mycorrhizal network to discourage cheating? These are all questions that will need to be addressed in order to more deeply understand the role that mycorrhizas play in plant communities.

Further reading:

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Bidartondo MI, Bruns TD. 2002. Fine-level mycorrhizal specificity in the Monotropoideae (Ericaceae): specificity for fungal species groups. *Molecular Ecology* 11:557-569.

Hibbett DS. 2002. When good relationships go bad. *Nature* 419:345-346.

Leake JR. 2005. Plants parasitic on fungi: unearthing the fungi in myco-heterotrophs and debunking the ‘saprophytic’ plant myth. *Mycologist* 19:113-122.

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Point Reyes MycoBlitz II and Mini Fair a Resounding Success

Debbie Viess

Despite the lousy weather (rain, rain, and more rain), over a hundred folks showed up and braved the elements to collect for the second phase of the Pt. Reyes MycoBlitz. On Saturday, January 28th, mushroom club members from as far away as Humboldt County to the north, and the Fungus Federation of Santa Cruz to the south, gathered to lend their eyes and abilities to this collegial and cooperative effort — with special thanks to Dr. Terry Henkel of Humboldt State University, who made the long trip down from Arcata to participate. A number of first-time mushroomers were initiated to the marvels of mushrooming, including a group from the California Native Plant Society, led by MSSF's Peter Werner. Darvin DeShazer, President of the Sonoma County Mycological Association (SOMA), lent his invaluable help to the ID process, and the mini-Fungus Fair on Sunday. Despite the paucity of both specimens and diversity, following a mostly dry week, the many forayers managed to bring back plenty of material.

On Sunday, some of the best of the common fungi were displayed at a mini-Fungus Fair, while the more intriguing specimens were taken to the Bruns Lab at UC Berkeley. There,

Many Hands Make Light Work: The Point Reyes MycoBlitz

The Point Reyes MycoBlitz has been a fine example of what can be accomplished by a large group of mushroom-lovers working together. Professor Tom Bruns, of the University of California at Berkeley, has been studying the fungi of Pt. Reyes for over two decades. (He will be speaking in March at the MSSF general meeting; see page 1.) Last year he suggested the possibility of recruiting foragers from all over the Bay Area to gather a representative sample of mushrooms for documentation. Our own David Rust — to whom much thanks! — took the idea and made it happen. The result was two MycoBlitz forays, in December and January, with individuals and groups ranging from Humboldt County to Santa Cruz. The article above and the one in the January *Mycena News* give details.

As a result of the efforts of more than two hundred participants over two weekends, in addition to decades of prior surveys by Dr. Bruns in the area, UC Berkeley has now compiled a list of over four hundred species of mushrooms found at Pt. Reyes. But we're not done yet. Together with our friends and colleagues in the world of mycology, we can have fun while making important contributions to the field. If you want to be a part of next year's collaborative effort, check your fall *Mycena News* for MycoBlitz dates and times.



Amanitas and more

our hardworking taxonomists, including the incomparable Else Vellinga, Mike Wood, Fred Stevens and Norm Andresen, toiled with Tom Bruns and his students to put names to many obscure fungi. San Francisco State University mycology graduate students Amy Honan and Jennifer Kerekes not only helped foray on Saturday, but also showed up at Pt. Reyes on Sunday for the mini-Fair, where they womaned the MSSF information table in the morning, with MSSF president David Campbell presiding in the afternoon. Amy and Jennifer then drove over to UCB to assist in the ID process. Way to go, gals! In fact, Amy managed to find, amidst the piles of fungal clutter on Saturday, the petite but awesome “best of show” specimen that, without her sharp eyes, might have gone unremarked and undescribed. This little fungus was no more than two inches tall, with a conical, pointy-nippled cap, a furry, central stipe and, amazingly, teeth instead of gills. None of our ace taxonomists would believe it until they saw it, and there were many middle-aged eyes, magnifiers in hand, opening wide in surprise.

At the mini-Fungus Fair on Sunday, park visitors were amazed at the beauty and diversity of three eye-catching tables of labeled, fungal displays. The stunning scarlet cup fungus, *Sarcosypha coccinia*, was kind enough to be abundantly fruiting; their host logs lent a splash of background color to our tables. Many of these folks, at the park for a variety of reasons, had never even considered (or noticed) mushrooms before. Bob Mackler, John Lennie and I gave beginner's mushroom talks that were well received. With the gorgeous weather on Sunday, it was surprising that anyone would want to spend time in the darkened auditorium of the Bear Valley Visitors Center. Such is the power of fungus.



Darvin DeShazer discusses mushrooms with visitors

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MSSF Calendar, March 2006

Monday, March 6, Culinary Group monthly dinner. 7p.m., Hall of Flowers, Golden Gate Park, 9th and Lincoln, SF. **Reservations required for the benefit of our volunteer cooks.** To make a reservation call Pat George at (510) 204-9130, or e-mail plgeorge33@yahoo.com **no later** than Friday, March 3. Cooks are notified on Saturday about the expected number of diners. Remember to bring your own tableware and beverage. For a description of the Culinary Group, please see the article in the October, 2005, issue of the *Mycena News*, available on the MSSF website.

Wednesday, March 15 - Sunday, March 19, San Francisco Garden Show. Last year's prize-winning team from MSSF will be going for the gold this year with a "Hobbit Child's Mushroomscape". At the Cow Palace in San Francisco. See <http://www.gardenshow.com/sf> for more information. And don't forget you can get in free if you volunteer (see notice on p. 6).

Tuesday, March 21, Mushroom Program for Beginners. Slide photos will be shown in the auditorium of the Randall Museum starting at 6:45 p.m., preceding the general meeting and will run about 45 minutes. The March program will be "Gilled Mushrooms II: White Spored" and will discuss *Armillaria*, *Mycena*, *Flammulina*, *Collybia*, *Marasmius*, *Clitocybe*, *Laccaria*, and *Pleurotus* among others.

Tuesday, March 21, MSSF General Meeting. Tom Bruns will speak on the fungi of Point Reyes National Seashore. NAMA slide show for beginners at 6:45 p.m. Mushroom identification beginning at 7 p.m. Meeting begins at 8 p.m.

Tuesday, April 18, Mushroom Program for Beginners. Slide photos will be shown in the auditorium of the Randall Museum starting at 6:45 p.m., preceding the general meeting and will run about 45 minutes. In April we will feature "Morels, Truffles, and Other Spring Fungi".

Monday, May 1, Deadline for Fungus Fair Poster Submissions. See page 6 for details.

Note: Deadline for the April 2006 issue of *Mycena News* is March 20.

Please send your articles, calendar items and other information to: mycenanews@mssf.org