Mycena News

The Mycological Society of San Francisco May, 2011, vol. 62:04

May 17th MSSF Meeting Speaker

Bob Cummings

Red Amanitas, Black Trumpets, & White Porcini: Mushroom Hunting in Santa Barbara

Bob has been a Professor of Biology at Santa Barbara City College since 1973, teaching mostly Plant Biology and general botany for non-majors.

He has followed his mycological interests all those years by collecting, keying, photographing, eating, and teaching about mushrooms. He has built up a large collection of photographs and a modest herbarium of specimens from the Santa Barbara area for taxonomic reference.

He has also worked closely with local emergency room physicians on mushroom poisoning cases for the past thirty years and is a frequent speaker and foray leader for groups in the Santa Barbara area.

MycoDigest: The Fungal Underground - California Truffles

Dave Lubertozzi

The sping and fall Oregon white truffles *Tuber oregonense* (left) and *Tuber gibbosum* (right) are the New World truffle species most closely related to the classic edibles in France and Italy.

Photo courtesy of North American Truffling Society.

As a mushroom forager of 20 years and a more recent amateur mycologist, I have long been aware of the mystique of truffles but mostly unable to afford them. As my major motivation for getting out in the field and identifying fungi is finding treats for the table, I decided that I should find out more about local truffles, having heard that they can be found in California. The curious fact remains that, despite the existence of large and active local amateur and commercial mushroom foraging communities here in the Golden State, truffles appear to inhabit a separate universe. No one I know seems to look for them or know much about them, although everyone seems to be aware that they are harvested commercially in Oregon.

With this in mind, I thought I'd do a little digging for these buried treasures and see what turned up. Google found the North American Truffling Society (NATS) based in Corvallis, OR. Their website is chock-full of useful information, including a FAQ and a key to a number of species with a photo gallery. A query to their webmaster, Matt Trappe, resulted in the following prompt reply:

President's Post

May is upon us. We are looking forward to seeing morels appear and other spring fungi including our "spring kings" (*B. rex-veris*) to follow in late May or June. Our Mather foray is sold out but keep your eye on the calendar for additional spring forays.

It has been a great season for MSSF and I want to use my post to recount what has changed for our organization and to thank everyone for their support and volunteer efforts that have made this such a great year for the club. We started the year with open council positions and more opened as the year progressed.

The first volunteer I want to thank individually is Max Garrone. Max ably took over as the editor of the newsletter you are now reading. David Lubertozzi held the role previously and was instrumental in training Max. I've been happy to support him this year with occasional InDesign troubleshooting plus trying to get him this column in a timely fashion.

In the fall Kevin Sadlier volunteered to take over merchandising efforts from Curt Haney who was elected VP last spring and Ron Pastorino who has been managing tee shirt sales for several yeas.

At Mendociono camp I met Bharati Mandapati who raised the question of how ecologically conscious the society is given how much we depend on the land to support our fungal studies and collection. After some discussion about the challenges of setting up carpools to MSSF events, Bharati stepped up to organize the rideshare system a few months ago using zimride. Acceptance of the new system has been somewhat slow so please use the system to organize carpools and let me know if you are having any trouble with it.

As spring began Will Nichols stepped forward to fill the Library Chair. Monique Carment has held this role for some time and it took us over a year to find her replacement. She and Will have organized a transition and you will see Will acting as librarian at the May meeting. Remember that MSSF members can browse our extensive library, check out books and pick them up from the Library chair at the monthly meeting. The library link for members only is http://mssf.org/committee/library.html

Finally, last month Nathan Heilman stepped up to replace Al Carvajal as membership chair. This is a very important position that Al has filled for many years during which he worked diligently to develop and refine systems for managing and messaging the database of our members. They have arranged a transition so that you will be hearing from Nathan in the future when it is time to renew your membership.

In closing, I want to thank all of the volunteers I've mentioned here and I'd like to thank each of you that volunteered during the course of the year. In addition, thanks to all members for your support. I hope to see all of you soon and look forward to another great season next year when I will continue to serve as President provided I am re-elected at the May meeting on 5/17. That is technically the "annual" meeting of MSSF per our bylaws. Please plan to attend if you can so that you can participate in the annual election of our nominated officers.

If I don't see you sooner please have a great summer and I'll hope to see you in the fall!

~Lou

president@mssf.org

Culinary Corner

Spring has arrived and mushroomers are thinking about how the rains, persistent snow and cool weather will affect the fruiting of morels. The MSSF will host at least two morel forays in May but make sure to check the web site for forays and impromptu foraging trips.

Remember that morels dry nicely and, according to many, the dried ones are as good when reconstituted as the fresh. When cleaning your fresh morels, avoid soaking them in water; you'll lose some flavor. Shake and brush them checking the little pockets and the insides for dirt and any creatures that may have taken up residence. Dry them whole in dehydrators or on strings hung in a warm room with slight air movement. Store them in jars with bay leaves, peppercorns, etc. Don't use plastic bags, small insects can bore holes through the plastic and ruin your stash. Dried morels will need to be soaked in water. You can pour the soaking water through a coffee filter and use it for sauces.

Being an optimistic person, I believe I will find some lovely morels this year and will not have to use any of my dried stash. Here's a recipe that is great with both fresh or reconstituted morels. Cognac and cream are classic compliments. This recipe can be enjoyed both as a gratin or over freshly cooked fettuccine.

Morels with Cognac and Cream

1 tablespoon unsalted butter

3 tablespoons chopped shallots

6 ounces of cleaned morels

1 teaspoon of your best gourmet salt or kosher salt

1/4 cup heavy cream

2 tablespoons Cognac (Substitute brandy if you don't have Cognac)

Chopped parsley

2 tablespoons freshly grated Parmesan cheese (optional)

Melt butter in a medium-sized cast-iron skillet over medium-low heat. Add shallots, cook until soft, c. 3 minutes. Add morels and salt, cook, stirring occasionally, for 10 minutes. Stir in cream and Cognac. Simmer for 5 minutes.

Pasta: Toss with the cooked pasta, Parmesan if you are using it, dust with chopped parsely and serve immediately.

Gratin: Preheat broiler. Then, sprinkle the cooked preparation with the Parmesan and slip it under the broiler until browned. Divide among 4 plates and serve immediately.

The Culinary Group has had a parade of memorable dinners this year. Each month's menu and other information can be found at the Culinary link at http://mssf.org. We are in the process of making the group even better with more participation from members. We welcome suggestions from our participants. We are a group of people who love to share our cooking talents with others. Naturally, mushrooms are a very important part of our dinners, as are good conversation and conviviality.

See you in the woods or at dinner

Pat

There are lots of truffles in California! If you're in the Bay Area, get in touch with Tom Bruns at UC Berkeley - he and his research group do lots of truffle work, including a long-term truffle project at Point Reyes. Over in the Sierra Nevada, Malcolm North (UC Davis) and Pat Manley (USFS) do fungal/truffle research and I'm sure would welcome volunteer field help. Terry Henkel (Humboldt State) does mycological research in Arcata.

Up here, many truffles are associated with Douglas Fir (*Pseudotsuga menziesii*), but in the Angeles National forest there is an island population of Bigcone Douglas Fir (*Pseudotsuga macrocarpa*) that probably hosts a community of truffles that is almost completely unknown - any foraging down there would be a great contribution to mycological knowledge, and we would eagerly welcome any collections from this habitat!

Most truffles associated with oaks fruit in the spring, and you probably won't find much in pure redwood or sequoia, which are endomycorrhizal. Stands with substantial components of pine and Douglas Fir are great truffling habitats, both spring and fall.

Matt, along with his father, Prof. James Trappe of Oregon State University, and Frank Evans of NATS subsequently authored the Field Guide to North American Truffles [1], which lists 90 hypogeous fungal species in 41 genera. Another dozen or so North American species in six genera have been reported in the literature since its publication [2].

Among the species ranked for desirability in the field guide, 52 are listed as being Inedible, Insipid, or of Unknown edibility; only one, the puffball *Scleroderma*, is listed as toxic, and the authors note that some mycophagists have become ill after eating the cup fungus *Sarcoshphaera*. Neither are likely to be mistaken for true truffles by a careful collector. The Insipid category unfortunately includes most of the common basidiomycete *Rhizopogon* species, the so-called false truffles. Among the 37 species classified as either Palatable, Tasty, or Delicious, they list a lone gastroid bolete, the tightly folded ascomycete *Geopora cooperi*, and species in several other ascomycete genera, with the choicest residing in *Leucangium* and *Tuber*, the latter containing a number of members of culinary interest including the commercially harvested spring and fall Oregon White Truffles, *T. gibbosum* and *T. oregonense*, respectively. These are the

Fruit bodies of the Oregon truffle, species *Tuber oregonense* Trappe, Bonito & Rawlinson. Specimens found in Oregon

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Please e-mail photos, comments, corrections, and correspondence to mycenanews@mssf.org.

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MSSF Officers 2010-2011

New World species most closely related to the prized Périgord Black (*T. melanosporum*) and Piedmont White (*T. magnatum*) truffles found in Mediterranean Europe.

The prized Périgord Black (*Tuber melanosporum*; top) and Summer (*Tuber aestivum*; bottom) truffles. Photos courtesy of Wikimedia commons.

A Web of Science search found a host of recent studies on truffles. The field is very active and, as evidenced by Mr. Trappe's reply, appears to be fertile ground for future research.

Else Vellinga, a fungal researcher in the Bruns lab and a frequent contributor to this journal, published a minireview in 2008, noting that truffle research dates to the 1880s and was pivotal in the discovery of mycorrhiza. All known truffle species but one are ectomycorrhizal [2]. Truffles form an important part of the mycorrhizal community, comprising approximately 20% of the fungal species and 25–40% of the dry root biomass in one survey [3], and it appears that their mycelium is more widespread than can be inferred from the distribution of truffles and ectomycorrhizas [4]. Truffles are a major component of the diets of a number of woodland animals, mostly rodents, notably several species of squirrels including the flying squirrel in California [5, 6] and in Washington, where truffles make up over 70% of their fall diet [7].

Recent molecular work has led to some reclassification of morphologically based identities and a phylogeography of the commercially important European species [8, 9], and DNA community profiling of truffle-bearing habitats has implicated multikingdom relations involving not only these fungi and their host trees but bacterial, *actinomycete* and other fungal species as well [10]. Several truffle species seem to play significant roles in fire succession ecology [11]. The genome sequence of the Périgord truffle was published in 2010; at approximately 125 megabases, it is the largest and most complex fungal genome sequenced to date [12].

Although most truffles appear to be native to the northern hemisphere, they have been spread across the globe, probably mainly by humans, and found new hosts. Of particular concern to the European industry is the displacement of the native Black Truffle by an invasive non-native, *T. indicum*, which was imported from China by marketers as a cheaper, if inferior, substitute that has now found its way into commercial truffle orchards [13]. Recently, this Asian species has also appeared in orchards in Oregon and has been confirmed to associate with North American tree hosts [14].

Of particular interest to the Bay Area hunter is the fact that *T. gibbosum* was first found in California near San Francisco by H.W. Harkness in 1878 [15] and later formally described by him in 1898; the existence of an extensive population of hypogeous fungi in California was reported as early as 1921 [16]. The question of course remains: how do you find them?

Unless you have a trained truffle-hunting dog, you simply have to go and look for them by gently raking away leaves and duff in likely areas under trees, sometimes guided by the presence of raised truffle humps or small pits dug by rodents looking for truffles. The Field Guide provides a basic how-to-hunt section. More information can be found at the NATS website and in Truffles and False Truffles: A Primer [17].

I realize the idea of using a rake may be anathema to some of my audience. To allay your fears of rapacious raking, I will repeat the ethical truffling guidelines suggested by NATS (full details are available on their website here: http://www.natruffling.org/guide.htm). In summary:

1. Obtain permission from land owners or the proper permit in state and national forest lands.
2. REPLACE THE SOIL AND DUFF!
3. Only harvest mature truffles; if they are not mature, move to another area or come back a few weeks later.

The website and the Field Guide offer more specifics on habitat, ripeness, and identification, but, other than getting a rake and some time to wander the woods, you're ready to go looking. The more eager taxonomists among you may want access to a microscope to help identify the trickier species. Alternatively, NATS offers a free truffle identification service. Simply dry and mail your specimens to them. I would encourage all who are interested in taking advantage of the resources they provide to join the society. Dues are $15 annually.

Websites:

- North American Truffling Society: http://www.natruffling.org
- Thom Bruns: http://plantbio.berkeley.edu/~bruns
- Malcolm North: http://www.plantsciences.ucdavis.edu/affiliates/north/index.html
- Pat Manley: http://www.fs.fed.us/psw/programs/cb/staff/manley
- Terry Henkel: http://www.humboldt.edu/biosci/faculty/henkel.html
- James Trappe: http://www.cof.orst.edu/100faces/bios/jimtrappe.php

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About the Author: Dave Lubertozzi was first introduced to wild mushrooms at an early age by a family friend who happened to be a mycologist but didn't get serious about foraging until he entered his first career as a chef. Unable to decide what he wanted to do when he grew up, he tried his hand at baking, brewing and winemaking followed by food science and chemical engineering, finally ending up in a lab at UC Berkeley attempting to genetically engineer the filamentous fungus *Aspergillus*, which is not a choice edible (although he has made sake with it on occasion). Despite his training in science, his palate remains his major motivator; his motto is "taxonomy facilitates gastronomy"! Having decided not to grow up at all, Dave has tried his hand at a few more things since graduating, including a stint volunteering as the editor of Mycena News, a position

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Mushrooming in Telluride

This August Curt Haney will be heading to the Telluride Mushroom Festival, aka shroomfest 31, one of the nation's oldest mushroom festivals. The festival runs August 18-21 and Curt is volunteering to be the coordinator for anyone else who wants to attend. For further information email Curt at lingking@sbcglobal.net or call him at 415-640-6233

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MSSF Calendar May 2011

May 2nd: May Culinary Dinner

May 6th-8th: Yosemite Camp

May 5th: Wild Food Presentation

May 17th: General Meeting: Bob Cummings

June 3rd-5th: Wild About Mushrooms Foray

June 12th: MSSF Annual Picnic

A Special Thanks

J.R. Blair would like to express his appreciation to everyone who helped spread the good fungal word to the visitors to the U.C. Berkeley Jepson Herbarium at Cal Day on April 16: Norm Andresen, David Gardella, Ginny Garrett, Pat George and, especially, Paul Koske. Thank you!

Mycena News Hiatus

This is the last issue of the Mycena News until Septembner 2011. Please note the submission deadline below and forward any suggestions for the Mycena News to mycenanews@mssf.org including article subjects, potential speakers and other ideas that would improve the publication.

Check the MSSF online calendar at:
http://www.mssf.org/calendar/index.php
for full details, latest updates and schedule changes.

The submission deadline for the September, 2011 issue of Mycena News is Sunday, August 21st. Please send your articles, calendar items, and other information to: mycenanews@mssf.org