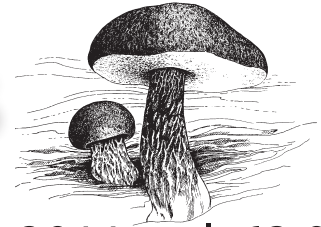

Mycena News



The Mycological Society of San Francisco September, 2011, vol. 63:01

September 20th MSSF
Meeting Speaker



Connie Green

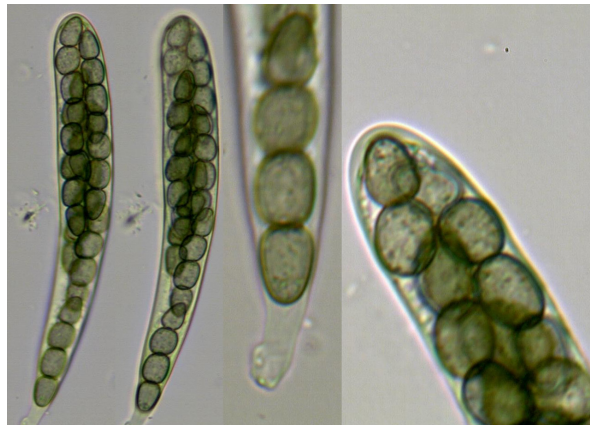
*Commercial Mushroom Harvest:
From Forest to Table*

Connie's talk will be an overview of the commercial mushroom world from the forest to the restaurant plate. We'll discuss the little understood world of pickers, buyers, wild mushroom territory and the common misconceptions about commercial mushrooming.

Connie Green has been a mushroom hunter for over 35 years and an MSSF member since 1983. As the founder of one of the first and largest wild foods businesses in the U.S., Connie has sold ingredients to most of the top chefs in California and around the country including Thomas Keller, Gary Danko, Michael Mina and many more. Owner and "head huntress" of Wine Forest, she has been featured in the French Laundry Cookbook (Artisan 1999), Bouchon (Artisan 2004), and numerous other books. Her recently released book *The Wild Table, Seasonal Foraged Food and Recipes* has been nominated for several awards.

MycoDigest: Dung Through the Ages

By Else C. Vellinga



Sporormiella

Photo courtesy Alain Brissard

This is a tale of tiny fungi that grow on dung.

Dung is a great substrate for fungi and the fungi have developed several clever strategies to optimize this life style. For a start they decompose (i.e. eat) the non-digested parts of grasses and other vegetable matter that pass through a herbivore's stomach and gut. Then they shoot or squirt their spores beyond the patty on which they are growing onto the grass around it, and there they wait for a cow/horse/mammoth/deer etc. to eat that particular clump. Once the spores are inside the herbivore's digestive system, they can make their way to the exit along with their favorite substrate to start a new life cycle. This process calls for some adaptations of the spores. They are often surrounded by a gelatinous mass, which makes them stick to the grass, and also gives them some protection during the passage through the animal. The spore walls themselves are thick and dark brown or black from melanin. This gives protection from the sun, just after they have been shot off, and from the chemical onslaught in the herbivore's stomachs where enzymes and acids attack the grass cell walls. The chemicals in the animal's innards are also essential to make many of these fungal spores germinate. The dark, thick spore walls are not easily

PRESIDENT'S POST

Welcome back MSSF'ers!

I hope everyone had a safe and happy summer. It wasn't too warm on my end of San Francisco but the cool weather provided many reports of The Prince and a couple of Porcini including a very large one picked by a council member.

First: We have a great slate of fall events. September 20 is our first general meeting of the season with Connie Green as our featured speaker. Her topic is "From Forest to Table" and she will discuss her most recent book *The Wild Table, Seasonal Foraged Food and Recipes*. It has received much critical acclaim including several awards and citations from visionaries like Jacques Pépin and Martha Stewart. Don't miss this great kickoff!

Later we'll have our annual Mendocino Foray (11/18-20) and the Fungus Fair in December. Check the website for details and to sign up for these events. You can also expect a number of local forays. Check the [online calendar](#) regularly for dates, details and carpooling. We recommend you carpool to all MSSF events using our partnership with Zimride. Anyone who uses the system to carpool to at least one MSSF event the fall will be entered for a chance to win 10% off either of the paid MSSF forays this season. Go to the [online sign up page](#) to share a ride to an MSSF event.

Second, the costs of operating the Society have been increasing and while we increased membership fees slightly last year we still did not quite make ends meet. In order to keep membership at the same price this season, we will be eliminating the distribution of a printed membership roster except by special request. You can print a copy from the members area of the web site. If you do not have a way to print, contact me and I will get you a copy. Also to save costs (not to mention trees which we'd rather have supporting fungal ecosystems than be putting through printing presses) I will email the monthly newsletter to make it easy to get News electronically without logging in to the Web site. I ask that anyone who does not need a paper copy of the newsletter either log in to the Web site and set their membership to not include it or let me know your preference and I will set it for you.

My final topic is to announce that the MSSF Culinary group is now being co-chaired by Bill and Carol Hellums after many years under the very able direction of Pat George. Pat, thanks for your great contribution. For all of you that have participated or would like to become active in the MSSF Culinary group please contact Bill and Carol or come to the first dinner September 12 at the County Fair Building, 9th and Lincoln in Golden Gate park. The group shares a monthly meal prepared by volunteers featuring mushroom cuisine. The September event is pot-luck so please bring a plate to pass, your own place settings, and whatever you wish to drink. The September dinner is used for planning the rest of the season so please attend to get the best choice of teammates and dates for your dinner (no experience required and a great chance to learn about cooking from our very capable leaders).

In closing I look forward to another great year with all of you and hope to see you at the culinary group potluck then our general meeting later this month. I am expecting us to have another great season together and as always I thank each of you for your ongoing support.

-Lou

president@mssf.org

CULINARY CORNER

Our uber-amazing, uber-capable and uber-brilliant Culinary Group Chair, Pat George, is retiring from the position for the 2011 season. She is an incredibly hard act to follow! In response, we have formed a Culinary Group Steering Committee to pick up where she leaves off.

On Sept. 12th, we will have a business meeting at 7^{pm} to discuss suggested policies and changes, with the potluck to follow immediately after. More details will be forthcoming on the MSSF website and in the October Mycena News.

Monday, September 12th, 7^{pm}

Culinary Group Dinner

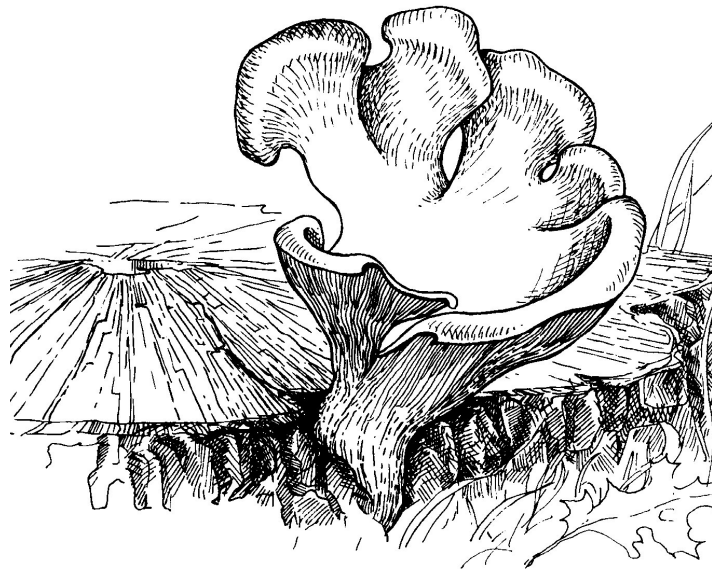
San Francisco County Fair Building, Golden Gate Park,

9th and Lincoln - San Francisco.

As always, our first dinner of the mushrooming year is a potluck. Please bring your favorite dish to share. Unlike our other dinners, no reservations are required.

Expect to eat mushrooms. Be sure to bring your own tablecloth, tableware and a beverage. The SFCFB does not provide dishes, etc. Decaf coffee will be provided.

- Lisa Bacon



broken down and mean that the spores can stay around in the environment for a long time.

Sporormiella, the heroine of our story, forms tiny, pear-shaped black fruit bodies, that stick out from the dung surface. The spores are easy to recognize. Each dark brown spore consists of a row of four to eight partial spores, which are completely covered by a thick gelatinous layer. Each partial spore has an s-shaped slit for germination purposes. This is a very widespread fungus, occurring worldwide on herbivore dung. And, the beauty is that these spores can still be recognized after thousands of years! This remarkable discovery means that we can deduce what kind of animals were roaming the earth, without seeing any fossil bones! The fungus supplements the information that various kinds of pollen give us about the changes in vegetation and that charcoal remnants, which can also be identified, tell us of fires.

Throughout North America, *Sporormiella* spores were abundant at the end of the last ice age when many different genera and species of big grazing animals were flourishing, including mammoth, American horses, western camel and llamas. Around 14,500 years ago their numbers started to drop as a first indication that the herbivores were vanishing. After that charcoal appears in the soil profiles: fires are raging. Is more flammable material available when herbivores are fewer in numbers and species? At the same time, new forests appear, with vegetation that also differs from that found today, and the temperatures rise. A meteor impact around 12,500 years ago may also have played a role in these changes. The big questions have always been of the chicken-and-egg kind. Take the demise of the megafauna and consider whether it was caused by a steady climate change accompanied by changes in vegetation or a killing of the animals by the humans who had recently arrived, followed by the changes in vegetation sketched above. From the analyses of several lake sediments in Indiana and New York it is clear that the animals disappeared a thousand years before the big changes in vegetation took place. This suggests that it was probably humans who killed the animals, and this was one reason for a change of vegetation and the fires. For the next thousands of years, *Sporormiella* spores are rare and hard to find. With the appearance of European settlers, European plants, and especially livestock, in the sixteenth and seventeenth centuries, the numbers of *Sporormiella* spores increase again – big herbivores are again plentiful in North America.

The oldest evidence of *Sporormiella* comes from the Yukon, which was part of the Beringian non-glaciated refugium during the Pleistocene and was buried under a thick layer of tephra from a volcanic eruption around 25,000 years ago. Various other fungal dung spores, found in the vegetation, resemble the spores of *Sordaria* and *Podospora*. The latter are huge and this alone makes them easy to recognize. Also from the Yukon comes a report of fungi in the coprolites (fossilized animal scat) of a ground squirrel that lived around 12,000 years ago. At that time the area is believed to have been an open tundra, grazed by woolly mammoths, Yukon wild ass, caribou, large-horned bison, now-extinct muskox, and also a large kind of mountain sheep. A complete nest of



September 2011, vol. 63:01

Contributors:

Else C. Vellinga, Lisa Bacon, Lou Prestia and Bob Cummings.

Editing and Layout:

Max Garrone

Mycena News is the members' newsletter of the Mycological Society of San Francisco, published monthly from October to September.

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

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

Past issues of *Mycena News* can be read online at www.mssf.org.

MSSF Officers 2010-2011

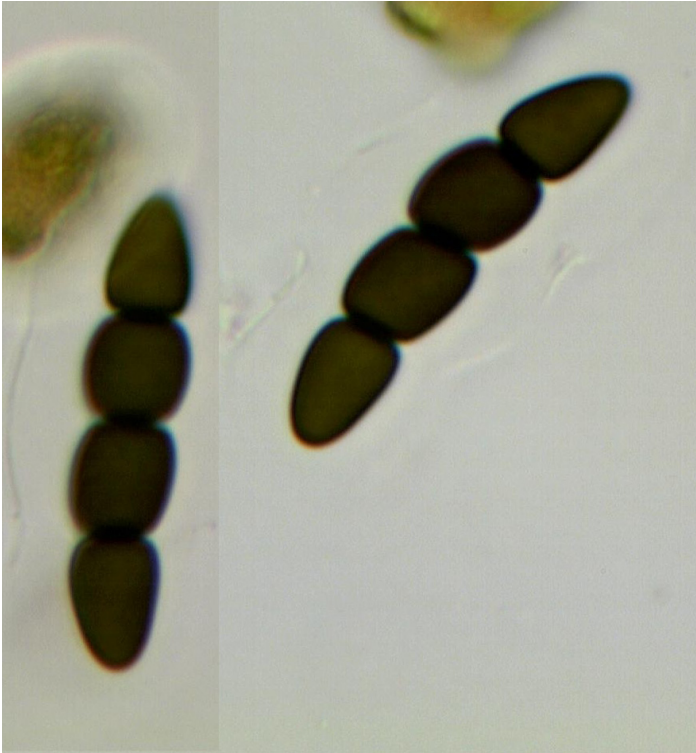
President: Lou Prestia
(510) 597-0214
lou@prestia.com

Vice-President: Curt Haney
(415) 333-8820
lingking@sbcglobal.net

Secretary: Donald Hughes
510-919-8866
hard-dharma-sage@sbcglobal.net

Treasurer: Henry Shaw
(925) 551-8243
hshaw@yahoo.com

a ground squirrel was found and, in its dung, are fungal species that are specific for rodent scat. *Sporormiella* spores were also found in the colon of a mammoth preserved in the Siberian permafrost, and in several dung heaps found under the animal. For California there is one study of Exchequer Meadow in Fresno County which shows that *Sporormiella* spores are abundant in sediments that are older than 10,300 years; interestingly their numbers do not increase in the last few centuries.



Sporormiella

Photo courtesy of Alain Brissard

New Zealand lacks land dwelling mammalian herbivores, nevertheless, the presence of *Sporormiella* spores in preserved bird droppings and dung, tracks the disappearance of several moa species, the arrival of European settlers and their animals, and the introduction of Red deer in the beginning of the 20th century. The moas were plant-eating, wingless birds, that were extirpated by Maori hunters, before western colonization.

So, a few glimpses of the world in days past are provided not only by pollen and other plant remnants, but also by the spores of itty bitty dung fungi.

Some articles for further reading:

Davis, O.K., 1987. Spores of the dung fungus *Sporormiella*: increased abundance in historic sediments and before Pleistocene megafaunal extinction. *Quaternary Research* 28: 290-294.

Geel, B. van, G.D. Zazula & D.E. Schweger, 2007. Spores of coprophilous fungi from under the Dawson tephra (25,300 14C years BP), Yukon Territory, north-western Canada. *Palaeogeography, Palaeoclimatology, Palaeoecology* 252: 481-485.

Geel, B. van, J. Buurman, O. Brinkkemper, J. Schelvis, A. Aptroot, G. van Reenen & T. Hakbijl, 2003. Environmental reconstruction of a Roman Period settlement site in Uitgeest (The Netherlands), with special reference to coprophilous fungi. *Journal of Archaeological Science* 30: 873-883.

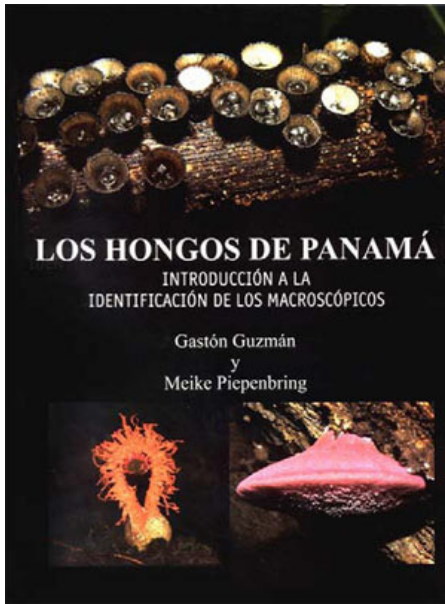
Gill, J.L., J.W. Williams, S.T. Jackson, K.B. Lininger & G.S. Robinson, 2009. Pleistocene megafaunal collapse, novel plant communities, and enhanced fire regimes in North America. *Science* 326: 1100-1103.

Robinson, G.S., L.P. Burney & D.A. Burney, 2005. Landscape paleoecology and megafaunal extinction in southeastern New York State. *Ecological Monographs* 75: 295-315.

Wood, J.R., J.M. Wilmshurst, T.H. Worthy & A. Cooper, 2011. *Sporormiella* as a proxy for non-mammalian herbivores in island ecosystems. *Quaternary Science Reviews* 30: 915-920.

Author:

Else C. Vellinga is a mycologist interested in the questions of where, when and why different mushrooms grow. You can find her publications and more about the groups she is studying on the web site <http://nature.berkeley.edu/brunslab/people/ev.html>. She knits in her free time, and occasionally uses fungi to dye yarn.



By Alvaro Carvajal

Los Hongos de Panama. Introduccion a la Identificacion de los Macroscopicos. By Gaston Gusman and Meike Piepenbring. 2011. 798 color photographs . XIV, 372 p. 4 to. Hardcover. - In Spanish, with Latin nomenclature and Latin species index. Editorial Ideograma, Mexico. \$82.00 (56€)

This monograph is the first to focus on the macroscopic fungi of Panama, and one of the few available about tropical fungi. The book is an analysis of Panamanian fungi with a focus on macromycetes, including knowledge about edible, medicinal and ecologically important species. It is very well illustrated, with 710 photographs and original drawings showing the most important macro and microscopical structures of each species. The book covers more than 600 species, 220 of them illustrated. The 180 species previously reported from Panama are listed, as well as 90 other closely related species.

The introduction covers the history of previous research on the area, Panama's biogeography and vegetation and a good coverage of the morphology, structure and biology of a fungus. Also included are sections with simple identification keys of groups, genera and species, descriptions of the species, a glossary and a very comprehensive bibliography. The research was sponsored by the Goethe University (Frankfurt am Main, Germany and Smithsonian Tropical Research Institute.

One of its authors, Dr. Gusman, is an Honorary member of the MSSF and we had the opportunity of hearing his presentations at a couple of past general meetings.

MSSF Lifetime Membership Announcement

The MSSF council awarded this recognition to Elsa Vellinga and John Lennie , who have both been most generous and willing volunteers.

John piloted the club as president in 1989-1999, and was a council member around that period. He took on two especially memorable projects: The revamping of the by-laws with help from the council. Than he took on the library which entailed typing, computerizing, cataloging and labeling over 700 books and other items. He researched and applied a system unique to our small library and outlined the society's policies and rules.

Elsa has dedicated her career to mycology, especially the delicate and delicious "Parasol" (the genera *Leuooagarius* and *Leucocoprinus*), and is a researcher in Tom Bruns' UC Berkeley Lab. She has contributed numerous scholarly articles to the Mycena News which are very readable and humorous as well.

At The MSSF Fungus Fairs they can be found at a mushroom table sharing their love and knowledge with our members and the public. Elsa has lectured on mycological topics at the fairs as well.

Check their websites for more info.

MSSF SCHOLARSHIP ANNOUNCEMENT

The MSSF is pleased to announce an expanded scholarship program for the 2011-2012 season. Along with our graduate student scholarship, we will be offering two additional types of educational scholarships for teachers and students interested in fungi. The first scholarship will be given to one elementary school teacher and one middle or high school teacher to attend the MSSF Mendocino Woodlands Foray in November 2011. The second scholarship will be awarded to both teachers and their students as passes to the MSSF Fungus Fair in December 2011. The goal of these new scholarships is to present teachers with more resources to help further classroom interest and study into the wonderful world of fungi.

Scholarship application forms, requirements, and additional information can be found in the Education Section of MSSF website.

For additional inquiries email: David Gardella: david_gardella@hotmail.com

Mycological Society of San Francisco
c/o The Randall Museum
199 Museum Way
San Francisco, CA 94114

First Class Mail
U.S. Postage
PAID
Oakland, CA
Permit No. 1451



September, 2011, vol. 62:05

MSSF Calendar September 2011

- September 12th: Culinary Dinner
September 20th: General Meeting :Connie Green
October 3rd: Culinary Dinner
October 18th: General Meeting
October 22nd: Lichen Rock Field Trip

MYCENA NEWS AND THE ROSTER

Per the President's Post this issue the Roster will only be distributed in print upon request. Please email Lou Prestia if you need a printed copy of this issue.

We also urge you to change your Mycena News subscription to email in order to save financially and environmentally so please update your subscription preferences on our web site or email Lou Prestia to have him update your preferences for you.

Lou will also start emailing the PDF version of the Mycena news personally with this issue.

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 October, 2011 issue of Mycena News is Sunday, September 18th. Please send your articles, calendar items, and other information to: mycenanews@mssf.org