

Next Meeting August 18th, 2008 - New Location

SPORES Afield

The newsletter of the Colorado Mycological Society

August 2008

President's Column

By Rob Hallock



It was the weekend of June 23th 2006. New York City was conducting a massive bio-blitz in Central Park to inventory the park's biological diversity. A bio-blitz is a one-time inventory of organisms at one particular point in time. Organizers of the Central Park bioblitz invited as many groups as they could conceptualize to study and inventory all diversity of plant, animal, and fungal life in the park over a single 24-hour period. Gary Lincoff, author of "The Audubon Field guide to Mushrooms" was in charge of the Fungi group.

It was hot and it didn't rain for two weeks prior to the bioblitz. Needless to say, Lincoff's group didn't find a lot of mushrooms. Not to be outdone by the herpetology or invertebrate societies, Gary Lincoff got an extension for the fungal inventory of the park. After a month of scouting the park almost daily, they amassed an impressive 121 species of fungi for the official list of species for the June 23rd survey. The fungi total is marked with an asterisk in the official totals which reads "Extended June 23-July 21".

The term 'BioBlitz' is a relatively new word in our lexicon that reflects recent drives to inventory the species on our fragile planet. It was first used to describe a Washington DC survey of biological life in 1996. Since then, bioblitzes have sprung up all across the country. Co-evolving with these efforts to categorize our flora and fauna has been the 'all taxa biological inventory', or ATBI. ATBI's are ongoing projects to keep track of species in a given location. These extensive species lists are usually amassed by series of bioblitz's and concerted efforts over long periods of time by multiple organizations (universities, governmental agencies, local clubs, etc...). Extensive species lists can be found online as a result of ATBI projects - including one for the Colorado Plateau. This particular project is a 5-year plan sponsored by the National Park Service and Bureau of Land Management, and some university groups.

Even newer is the term 'mycoblitz' - which is a one time inventory of fungi at one particular point in time. There have been one or two mycoblitz's across the country annually in recent years. Large scale mycoblitz's have been performed in

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August Presentation - Else Vellinga

We are pleased to have Else Vellinga from Berkeley as this year's chief identifier for our annual mushroom fair (August 17th) at the Denver Botanical Gardens and a talk on Monday August 18th at 7:30 at the American Mountaineering Center in Golden. The club will first give a synopsis of the mushroom fair (a species count, new species found, and interesting finds), then we will give a 5 minute talk about the Rocky Mountain National Park mycoblitz (August 23rd and 24th). Else will then take the floor and talk about new developments and insights in the mushroom world - from the changes in taxonomy (from microscope to

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Location change for the August meeting

Please see the map on page 6

The regular CMS meeting on Monday August 18th will be held at the American Mountaineering Center (710 10th Street, Suite 200) in Golden. The Botanical Gardens is having a concert the night of August 18th, and we are unable to have our meeting there. The Colorado Mountain Club generously

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2008 CMS Mushroom Fair

Sunday, August 17th, 2008
11:00 a.m. to 5:00 p.m.
Denver Botanic Gardens, Mitchell Hall

August is Fair month for the Colorado Mycological Society. Check out the Fair page on the website (<http://www.cmsweb.org/fair.htm>) to learn about all the fun things happening at the CMS Mushroom Fair. Come to the Denver Botanic Gardens, Mitchell Hall, on Sunday, August 17th, to learn everything you ever wanted to know about mushrooms — edible, non-edible, poisonous, medicinal, ceremonial, magical, and more. ☺



June and July Newsletter Delay

Delivery of both the June and July newsletters was delayed. Thank you to those who brought the problem to my attention. Efforts have been made to ensure on time delivery of the newsletter in the future. Thank you for your patience!

Gretchen Cheverton
lindygrey@yahoo.com

Correction

Reading the signs, "Colorado Under Construction" in the July issue should have been attributed to Bill Windsor.

Spores Afield

Cook & Taste

The Cook & Taste, CMS's annual pot-luck dinner, will be part of our regular meeting on September 8th. Details for permissible mushroom dishes will be the same as always, and will be printed in the September newsletter - until then, keep in mind what you'd like to bring to help make the event successful. Everyone can bring something, as we will also need drinks, paper plates and plasticware. If you would like to help organize this event, and I promise this is not a taxing job, please contact Rob Hallock.

Upcoming Events

August 16th -

Set up for the Fair

August 17th -

Annual CMS Mushroom Fair at Denver Botanic Gardens. The Fair identifier this year is Else Vellinga.

August 18th -

7:30 PM - Else Vellinga -
Mushrooms: paths of discovery
An exploration of the new developments in mycology: the findings in relationships between species, the roles of mushrooms in the environment, how mushrooms spread their spores and much more.

September 8th -

7:30 PM - Cook & Taste - A 10-minute introduction will be given by Rob Hallock on the mushrooms we will be eating.

October 13th -

7:30 PM - Dr. Roberto Garibay -
"Ethnomycology"

Monthly Meetings

CMS meetings provide an informal opportunity to socialize and exchange information with others interested in mycology. Meetings are usually held the second Monday night of each month, from March through October, at 7:30 pm at the Denver Botanic Gardens, 1005 York Street, Denver, CO. The meetings are held in Mitchell Hall. There is no charge to get into the Botanic Gardens to attend the meetings. Members and visitors are welcome.

Bring mushrooms for identification and display to any meeting.

All meetings are held at the Denver Botanic Gardens in Mitchell Hall at 7:30 pm unless otherwise announced. ☺



Michael Kuo available for book signing

Expert mycologist Dr. Michael Kuo will be the chief identifier at the Rocky Mountain National Park mycoblight on August 23rd and 24th. Michael is the author of two popular, informative, and well written mushroom books: "100 Edible Mushrooms" and "Morels". Michael will sign his books at the mycoblight. CMS will have these books for sale at our August meeting and at our mushroom fair. We have limited copies, so get yours soon. ☺

Foray Schedule

Saturday, August 9th — Collection of material for the Herbarium of Fungi

Ellen Jacobson leader. If you are planning in joining this foray you are requested to bring the following: pen and paper, collecting basket, waxed paper, knife, and a mushroom book or Kit Scates' keys. Ellen says that you will be collecting for the DBG Herbarium and not for the table. This is a great opportunity to learn how to look at, describe, and identify mushrooms. Call (303-741-3836) or e-mail Ellen (egj538@aol.com) if you have a question regarding this foray.

Friday, August 15th — Annual Mushroom Fair Foray

Ellen Jacobson leader. On this foray you will be collecting for the CMS Mushroom Fair. Once again, this is not an edible collecting foray. Bring a basket, waxed paper, pen, and paper. Call (303-741-3836) or e-mail Ellen (egj538@aol.com) if you have a question regarding this foray.

Sunday, August 17th 9:00 AM - City Mushroom Bicycle Foray

Led by Jason and Manny. Meet at the veranda on the east side of Cheeseman Park, bring the usual foray collection gear. This will be a fun, easy bike foray around the park and surrounding area culminating with bringing specimens back to the CMS fair at the Botanic Gardens as part of the city mushroom exhibit. Any questions contact Manny at 303 296-9359 orlodomyco@earthlink.net.

Saturday, September 20th — Location TBD

Jennifer Frazer will lead this foray. More information including meeting time will be available later. The meeting place will be in the Safeway parking lot (NE corner) in Boulder at 28th and Arapahoe.

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the Great Smoky Mountains, the Point Reyes National Seashore in northern California, and at several smaller areas and parks across the country. The first mycoblitiz in a national park was the Great Smoky Mountain mycoblitiz in 2004. After 3-years of planning, about 70 participants gathered in three separate parts of the park for a weekend in July and documented over 200 species.

The Point Reyes National Seashore mycoblitiz was initiated in December of 2004, and was the second mycoblitiz in a national park. For this inventory, local mushroom clubs performed two mycoblitiz's a year for several years. The chart of total fungal species graphed over time showed some very interesting results. The number of documented species increased linearly with time until around the fourth mycoblitiz. Since then, the number of new species found has begun to taper off. In all, roughly 450 species have been found and documented at the park. The species list is most certainly going to increase with more mycoblitiz's, but data extrapolation suggests that the number of new species will increase slowly and steadily.

Not surprisingly, cumulative species lists from larger areas grow linearly for a longer time before beginning to taper off. This is because the sampling area is much greater, representing a greater diversity of habitat for mushrooms. For example, over an 8-year period, new species at the Santa Cruz Fungus Fair only started leveling off after 5 years of records (data available from 1994-2001). These collections represent mushrooms taken in from a much larger area than a single park, and are thus expected to represent a broader area of land.

A five year plot of new species in Newfoundland & Labrador has not begun to taper off one bit – and is currently at 570 species – indicating

that there are many more mushrooms to find and document up there. One of the most extensive cumulative mushrooms lists available in the US are from the annual North American Mycological Association (NAMA) forays. These forays (or at least the records of the forays) started in 1962 and the location varies from year to year in locations across North America. These forays almost always occur in late-summer and thus only represent a sampling of mushrooms that occur at that time. The number of new species over the past 40 years has topped 3,000, but the slope of the line representing cumulative new species collected is linear. This indicates that the total number of fungi in the country

simply cannot be estimated with the current data - although the current best guess is that there are around 10,000 species of macrofungi in North America. Based on gross sampling biases (in terms of hunting areas, time of year, etc) and insufficient DNA analyses, this writer believes that the total number of species will be several times greater than the current estimate.

One of the things I like best about mycology (the scientific study of mushrooms) is that there is still a predominant role for the amateur mushroomer. A great number of species found at the annual NAMA foray are collected by beginners. New species are brought in every year at the Colorado Mycological Society mushroom fair that have never been seen before in Colorado. These specimens, many brought in by curious new CMS members, are preserved in the Denver Botanical Gardens Herbarium of Fungi. Many new species that we find in the woods are

named after amateur mushroom hunters, whose curiosity and passion for the natural world led them to the world of mushrooms.

CMS has organized the third mycoblitiz in a national park – to be held in Rocky Mountain National Park on August 23rd and 24th. This is an historic occasion and one that the National Park system is monitoring closely for two reasons. First, they are interested in the species list we document in the park, including an inventory of

Many new species that we find in the woods are named after amateur mushroom hunters, whose curiosity and passion for the natural world led them to the world of mushrooms.

photographs of the specimens. Second, they are monitoring the event to plan future mycoblitiz's in national parks.

We will spend a weekend in the park photographing, documenting, collecting, and

inventorying fungi. Collecting fungi in our National Park system is typically against strict regulations, and CMS is working with the parks system to study the fungi in the park for this one weekend. We are very excited about the mycoblitiz and the discoveries that await us. Registrations for the mycoblitiz will be open on the website until August 15th, but will close earlier if maximum capacity (100 people a day) is reached. Please visit <http://www.cmsweb.org/mycoblitiz/index.htm> to see details about the weekend and register. We have recently added a series of seminars from 2 - 4 PM on Saturday and Sunday. Seminars will be given on sudden oak death, myxomycetes (slime molds), native wildflowers, and common edible and poisonous mushrooms, to name a few. The list of seminars will be finalized and posted on the website as we get closer to the mycoblitiz. We hope to see you there. ☺

CMS would like to thank

Early this summer, \$250 was donated to CMS to use for the ongoing benefit of the club, in honor of Lucy and Wilson. In a recent CMS board meeting, we voted to apply the money towards the purchase of a laptop computer which will be used for projecting presentations at our regular meetings, at the Mushroom Fair, and for other programs CMS presents to the public. General CMS documents and pictures will also be stored on the laptop, and it will continue to be beneficial for CMS for many years to come. Thank you very much.

A special thanks to Bob & Ruth Zartman who brought some snacks to our July meeting.

Gala Fungi Feast Sunday, October 19, 2008

CMS is planning the end-of-season mushroom banquet at the Boulder Cork on Sunday, October 19. Doors open at 5:00 p.m. and dinner will be served at 5:30 p.m. All members and friends of CMS are cordially invited to attend.

The Boulder Cork restaurant has provided quality food and excellent service since 1969. The food at the Boulder Cork is an impressive display of creativity and variety, masterminded by Executive Chef Jim Smailer. He has been the Chef at the Boulder Cork for the last twenty-two years. Jim has developed a passion for wild mushrooms, both in the woods and in the sauté pan. He believes mushrooms should be prepared simply to let their own flavor be fully appreciated. Seating is limited to 65 people.

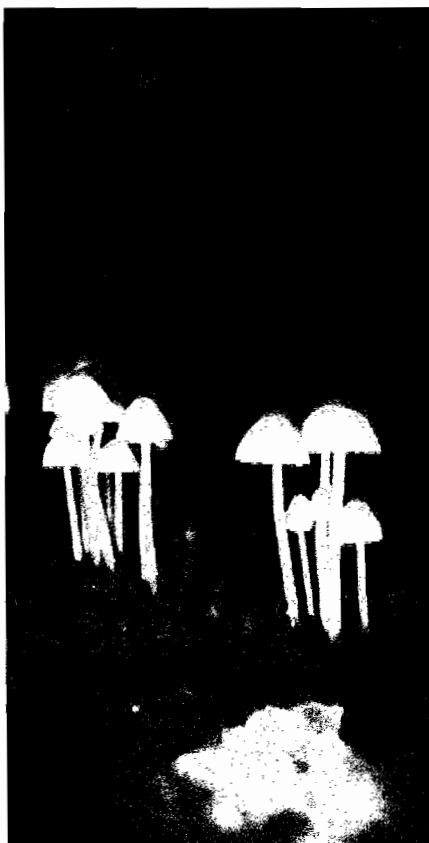
To reach the Boulder Cork from Denver: Take I-25 North to the Boulder Turnpike (US 36). Take Highway 36 to Boulder. Exit on to Foothills Parkway in Boulder. Go North on Foothills Parkway. Turn left on Valmont and then right on 30th Street. The restaurant will be on your left.

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molecules) and what we know about the ecology of mushrooms. This will be a general talk on mushrooms, and all are encouraged to attend.

About Else Vellinga — Else Vellinga is a researcher in Tom Bruns' lab at UC-Berkeley, whose work focuses on the systematics and phylogenetics of the beautiful parasol mushrooms in the genera *Leucoagaricus* and *Leucocoprinus*. The main questions she tries to answer are: which species do we have in California, in Hawai'i, Panama and in Thailand, how do we recognize them and how are they related to each other and to the other members of the Agaricaceae. She is interested in biodiversity and conservation, and tries to keep track of the recent mushroom literature. She migrated from the Netherlands in December 1998 and is still an editor for the Dutch mushroom flora. Her working time is divided between the computer, the microscope and the lab bench. She is an avid knitter and mushroom dyer



CMS Forum Change

CMS has changed its discussion forum to a Yahoo! group. This became necessary as a result of the burden on the administrators from masses of spammers trying to access the forum. The new forum can be found at the address below. We hope you will join this group to discuss Rocky Mountain mushrooms in particular and mycology in general.

<http://tech.groups.yahoo.com/group/ColoradoMycologicalSociety/>

You can also follow the link from the CMS website (<http://www.cmsweb.org/>).

SporesAfield

SporesAfield is published from March through October by the Colorado Mycological Society. CMS dues are \$28 for the first year and \$25 thereafter. Send membership dues to:

Linda deLeon
CMS Membership Chair
14310 W. Fifth Ave.
Golden, CO 80401-5226.

All CMS members receive *SporesAfield* as part of their membership.

CMS is an affiliated member of the North American Mycological Association.

CMS web site: www.cmsweb.org

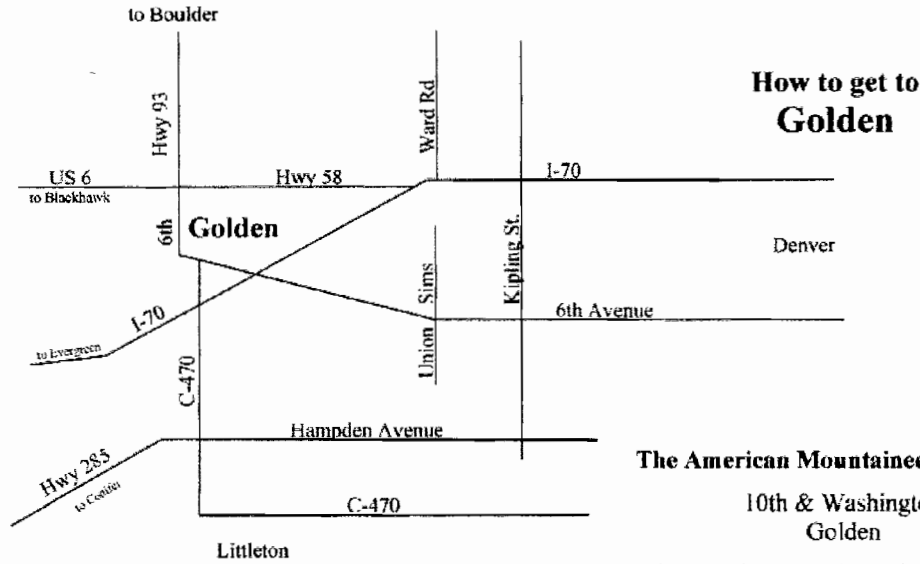
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offered use of their facility in Golden.

This meeting will be the day after our annual mushroom fair, and will feature Else Vellinga as our speaker for the night. By necessity, this meeting will be the third Monday in August, a week



Directions to The Colorado Mountain Club

in the American Mountaineering Center
on the corner of 10th & Washington
in downtown Golden

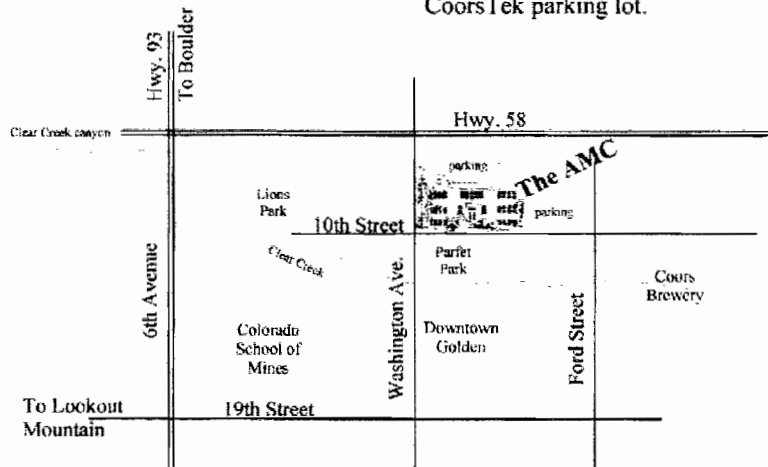


The American Mountaineering Center
10th & Washington
Golden

Parking is available on the north side
of the AMC, and to the east in the
CoorsTek parking lot.



The AMC
is also home to the
**Bradford Washburn
American
Mountaineering
Museum
&
Base Camp
gift shop**



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Fungus Foot Baths Could Save Bees

ScienceDaily (July 28, 2008) — One of the biggest world wide threats to honey bees, the varroa mite, could soon be about to meet its nemesis. Researchers at the University of Warwick are examining naturally occurring fungi that kill the varroa mite. They are also exploring a range of ways to deliver the killer fungus throughout the hives from bee fungal foot baths to powder sprays.

It well known that bees world wide are suffering serious declines and one of the causes of that decline is the varroa mite, *Varroa destructor*. Varroa mites feed on the circulatory fluid of honey bee pupae and adult bees, and in so doing they activate and transmit diseases which reduce the life expectancy of the bees and cause the colony to decline. Varroa has had a major impact in all countries where it

has become established, for example it has caused losses of 30–50% of honey bee colonies when it first arrived in the UK and is now endemic. The loss of honey bees on this scale is affecting the pollination of commercial crops and wild plants. It originates in Asia, but has extended its range world-wide

At present, the management of varroa is based on the use of chemical pesticides, but the mites are developing resistance. Biological control technologies (the use of one organism to control another) could offer a way of moving pest management strategies

away from a reliance on these synthetic pesticides but no natural insect or other enemies of varroa species have been identified on the varroa or on their bee hosts.

Now Defra-funded studies by researchers at the University of Warwick's plant research group Warwick HRI, and Rothamsted Research has found some new natural enemies of varroa from other hosts.

University of Warwick researcher Dr Dave Chandler said:

"We examined 50 different types of fungi that afflict other insects (known as entomopathogenic



Varroa on bee pupae. (Credit: Image courtesy of University of Warwick)

fungi) to see if they would kill varroa. We needed to find fungi that were effective killers of varroa, had a low impact on the bees, and worked in the warm and dry conditions typically found in bee hives. Of the original 50 fungi we are now focusing on four that best match those three requirements."

The team now hope to secure additional funding to further examine the effectiveness of these four fungi and to begin to consider the best ways of applying this weapon across the hive. A number of approaches are being considered including having fungal footbaths at the main entrances to hives. However the complex environment within bee hives means that more devious means of application may be needed.

Dr Chandler will be hosting the Society for Invertebrate Pathology international conference at the University of Warwick, starting 4th August, where a special session is being held on honey bee health. The session will bring together some the world's leading experts in bee colony collapse disorder to discuss the full range of its possible underlying causes.

University of Warwick (2008, July 28). Fungus Foot Baths Could Save Bees. ScienceDaily. Retrieved July 28, 2008, from <http://www.sciencedaily.com/releases/2008/07/080728081621.htm>



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Other Society Activities

Forays:

When the mushroom season gets going, mushroom forays are led by experienced members of CMS to different locations around the state. We usually hold forays on Saturday and Sunday. *These forays are limited to members only.* Forays are probably the best way to learn to recognize different kinds of mushrooms.

Mushroom Fair:

A mushroom fair is held each year in August at the Denver Botanic Gardens. August is the height of the mushroom season in Colorado, and members from around the state bring in a large variety of mushrooms for identification and display. The fair is open to the general public on Sunday. It is a great time to learn about mushrooms!

Spores Afield

Resources:

CMS Library

CMS offers free use of the mycology reference library to CMS members. Please contact Jeffrey Dann at 303-449-9395 to check out a book or to find out more about the collection.

Books For Sale

We also offer a variety of books for sale at each meeting. The books are usually available to members at a discount.

CMS Web site

CMS is on the World Wide Web at: <http://www.cmsweb.org>. The web site is full of information on the society's events, forays, and links to other sites in an easy to use format.

Librarian Required for CMS

Our current Librarian, Jeffrey Dann, has indicated that he will be unable to continue in this role after the 2008 season due to his projected work and travel schedule. The job entails storing and being responsible for seven boxes of books on mushrooms and mycology (paper box size), bringing at least one box of books to meetings, and accepting requests from CMS members for books they wish to check out and bringing these to meetings. There is an alphabetical list of books in the library. No knowledge of mushrooms is necessary to do this job. One great perk of being Librarian is that you would have access to all the books, a fine opportunity to learn more.

Please contact the Secretary, Joanna Seward (sewardj@aol.com or 303-455-3519), if you can consider volunteering for this CMS position.

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