



Among Fungi

www.cascademyco.org

Spring 2003 Vol. 4 issue 1

Time to renew your membership.

The meeting schedule:

Meetings are on the second Thursday of the month at Lane Community College, Science Building, **Room 115** at 7:30pm (unless otherwise announced). Our meetings are **September through April**.

March 13 Bruce Newhouse and Peg Boulay will speak on "Slow food: cooking with mushrooms"
There will also be mushroom cooking demonstrations by LCC Culinary Arts students. **The meeting will be held in the Renaissance room, Center Building room 107 (lower level, next to the coffee bar).**

Please note the room change for this month only.

Board nominations will be announced at this meeting.

Elections will be held by mail.

April 10 speaker TBA
Election results announced, last meeting until September.

Foray schedule:

May 11, the annual Mother Day Morel Foray to Jack Creek (or the Sister's area). The foray will be lead by George Windham 689-3719 or watch the website for details or call George.

We are always looking for people willing to lead a foray. You do not have to be an expert, merely enthusiastic. All you need to do is to be willing to take folks out in the woods to look for mushrooms.

Out of Area events:

Class: Higher Fungi of the Sierra Nevada
1-6 June 2003
Sierra Nevada Field Camp of SFSU
Instructor: Dr Dennis Desjardin
www.sfsu.edu

**Colorado Mycological Society
Annual Mushroom Fair**

11 August, 2003 Denver, CO
www.cmsweb.org

Class: Spring Fungi of the Klamath Region
May 2-4 Ashland, Or.
Siskiyou Field Institute
Instructor: Ron Hamill

species list for the site. Ron Hamill, taxonomist extraordinaire, will lead the effort.

CMS will have field trips through out the year to collect and document mushrooms.

This project could be the start of a larger project to create a list of all the fungi that grow in Oregon. This is great opportunity to collect in a beautiful setting and learn a lot of species. I encourage everyone to participate.

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Volunteer needed! We'd like to have a booth at the Mt.Pisgah wildflower booth in late May. We need someone who'd be willing to set up and organize staffing the booth. The purpose of the booth would be to get the word out about CMS. Call Cheshire 689-8189 if you are interested.

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Loose morels in northwestern Oregon

by Joe Spivack

For those of you not acquainted with the fungal friend, Morels (*Morchella elata* and *Morchella esculenta*) are some of the finest wild edible delicacies to be found in our region. They usually pop up their wrinkly, pitted faces in the early springtime around the lowlands of Western Oregon. This is often between when the trilliums are blooming in the woods and the lilac buds are beginning to burst open. When the oak leaves are the size of a squirrel's ear you can stop looking. According to mushroom guru David Arora, "Morels usually grow outdoors: in forests (under both hardwoods and conifers) and open ground, in abandoned orchards, gardens, landscaped areas, under hedges, on road cuts and driveways, near melting snow, in gravel, around woodpiles and tree trunks, and in sandy soils around streams. In other words, morels grow where they please!" Before you go running out to your driveway or closest hedge, let me tell you where to hunt for morels. Although commercial pickers often scoff at Western Oregon as "not prime

turf", where harvests are spare and inconsistent, they can be found some years in numbers during March and April in recent clear-cuts. In our area we most often find black morels (*Morchella elata*) in conifer clear-cuts five months to two years after logging has occurred. The first spring after logging often yields the greatest number of mushrooms, with the second spring often producing smaller, but still substantial amounts. Don't bother to hunt in clear-cuts after the second Spring, unless you enjoy tromping through thistles, snaggy brush and blackberries, just for the hell of it. Recent clear-cut with burned slash piles, and recent forest fires often increase your chances of finding the critters, but regular plain old clear-cuts will do. Morels like the disturbance of fire so much that according to folklore, Europeans used to burn their forests and anxiously wait until the next spring to seek the treasures of ruin.

In many parts of North America morels can be found in forests, along streams and river bottoms, and in meadows. In northwestern Oregon consider yourself lucky when you find them outside of disturbed areas. When they do fruit in undisturbed settings for repeated years they are often called "natives" by morel lovers. River bottom cottonwood groves have been known to produce natives in the Willamette Valley. In more continental climates such the midwest or central Oregon natives represent a much greater percentage of the morel harvest than here locally, and hunters often return to the same spots year after year.

Here in northwestern Oregon, it often takes the colossal disturbance of clear cutting, bulldozing, and/or fire to activate the morel sclerotium to trigger a fruiting phase. It is thought that some mushrooms, including morels, form an underground tuber like knot of hyphae called a sclerotium. These sclerotium, which can survive many years in a resting stage, fruit periodically when most favorable conditions are present. If you wander out to the gnarled abscesses of a clear-cut this spring, keep in mind that morels

are very difficult to see and bear an uncanny resemblance to just about everything else found in a clear-cut the size of a morel. Charred chunks of wood and pine cones lead from one disappointment to the next. It's not the same sense of spiritual rejuvenation one gets from a chanterelle hunt in an old growth forest. All the sudden when you're about to give up, you notice you are stepping on one. You carefully scope the area near your crushed find and see eight or ten more! With your heart pounding you retrace your steps down the hill and realize that they were there all along. Don't be surprised if you spend a couple of unsuccessful seasons of trudging through ravaged clear-cuts without finding any morels.

Even if you are in the right place at the right time they don't fruit every year locally. Some of the most productive training for aspiring novices occurs during sleep. Countless dreams of bountiful morel patches will help to imprint the likes of this elusive fungus on your brain, helping your eyes to pick out these camouflaged mushrooms in the field. If you are wondering how to find recent clear-cut in our nearby public forest lands, here's a foolproof method. Travel less than 45 minutes east or west of Eugene. Find an elevated area with a good view. With eyes fully open slowly rotate in a 360 degree circle. It's that simple.

Here's a few tips on cooking morels----

- 1) Always fully cook your morels. Raw morels can cause very severe digestive problems, and there are numerous accounts of this type of poisoning.
- 2) Morels have a strong delicious earthy flavor and do not need a lot of flavoring. When sauteing a little salt and butter is all you need
- 3) Bring them over to my house for a free demonstration on proper cooking and eating etiquette.

Happy hunting, Joe Spivack
(Joe is program coordinator and vice president of CMS)
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New on the Web:

MATCHMAKER: Identification of Gilled Mushrooms of the Pacific Northwest

reviewed by Adolf Ceska (taken from Botanical Electronic News)

MatchMaker is an elegant computer program for interactive identification of gilled mushrooms of the Pacific Northwest (BC, WA, OR, and ID), combined with full descriptions and a large database of mushroom photographs. Its authors, Ian Gibson and his son Eli Gibson started to work on the MatchMaker in 1996 and their recent 2001 CD-ROM "beta" version contains descriptions of 2087 species. In this CD-ROM version, there are 1444 illustrations of 714 gilled mushroom taxa and 447 non-gilled taxa. 65 photographers have contributed to this non-profit project with their photographs. The Pacific Northwest Key Council supported the project with a small grant (mainly to buy blank compact disks) and tested interim versions.

Wendy Alexander, Tony Trofymow and Alan Thomson (at Canadian Forest Service, Pacific Forestry Centre in Victoria, B.C., Canada) converted the CD-ROM version into a web page program that can be accessed at <http://www.pfc.cfs.nrcan.gc.ca/biodiversity/matchmaker/>

The web version (based on an earlier release on MatchMaker) does not have illustrations of non-gilled mushrooms, and has fewer photographs. The plan for the web version (which is based on the 2000 CD version) is to update the information to the current CD version, and increase the number of illustrations of gilled mushrooms. This should be completed over the next six months.

CMS is a non-profit under 501(c)(3). Donations are tax deductible to the fullest extent allowed under the law.

Book Review: Lichens of North America

From: Adolf Ceska [aceska@victoria.tc.ca] and Trevor Goward [tgoward@interchange.ubc.ca]

This is a magnificent book, bringing to life more than 800 species of North American lichens, with notes on another 700 species. The dust jackets tells us that the book contains 939 color photographs. "Superb" is how it describes them, and it is indeed difficult to find a better descriptor. The quality of photographs is truly astonishing and, with the exception of a few species printed too red, we were unable to find a single picture that fell below the high standard set by the remaining 938. The book includes several full-page photographs that are really breathtaking.

Lichens of North America is divided into two parts. Part 1 consists of 14 introductory chapters covering about 100 pages and providing concise, but comprehensive overviews of lichen biology, structure, uses, and ecology. Part 2 is dedicated to taxonomy. Spanning about 650 pages, it contains keys, genus descriptions, and, within the genus accounts, detailed species descriptions that include notes on ecology, distribution, and points of distinction with similar species. Especially welcome is the inclusion of 769 distribution maps -- all original with this book. Readers accustomed to the phylogenetic emphasis of most vascular plant guides may be somewhat frustrated by the alphabetical arrangement adopted here (in which, for example, *Omphalina* follows *Ochrolechia*); but this is simply an artifact of the as-yet-unsettled state of lichen phylogenetics.

The index is a pivotal part of the book, essential for helping the reader navigate its 795 pages. Readers who miss author citations in the species accounts will also find them here. Synonyms are

reduced to the minimum, but all the names mentioned in Hale's 1979 popular key How to identify lichens are cross-referenced.

Sadly, Lichens of North America suffered the loss of one of its authors, Sylvia Sharnoff, who died just as the manuscript was going to print. This book is a great monument to her love and work. Yale University Press did an excellent job of bringing it to publication. The book was printed in Italy and every aspect of it is masterful, be it the scientific work, the photography, or the layout and production. This project was supported by numerous benefactors and as a result the price of the book has been kept remarkably low.

Is there anything we don't like about Lichens of North America? Well, yes. At 3.9 kg (8.6 pounds), it's simply too heavy! Pity the poor reader who, specimen in one hand, hand lens and spot test reagents in the other, will be required to flip back and forth between the keys and the species accounts, in some cases separated by a hundred pages. We regret that Dr. Brodo and Yale University Press hadn't duplicated the identification keys (plus the glossary and species index), and issued them as a separate soft-cover supplement. Come to think of it, there may still be time. Please, listen to us: collect the keys and publish them again separately. Don't be afraid that this would undercut sales. On the contrary, it would make an already esteemed book even more cherished by those who use it.

Ordering information:

Yale University Press
P.O. Box 209040
New Haven, Connecticut 06520-9040
Phone: 1-800-987-7323
Fax: 1-800-777-9253
Web: <http://www.yale.edu/yup/>
Price: US\$69.95

Lichens of North America by Brodo, Irwin M., Sylvia Duran Sharnoff, & Stephen Sharnoff. 2001. Yale University Press, New Haven &

London. xxiii + 795 p. ISBN 0-300-08249-5
[hardcover, cloth]

**editors note: you can get this book at
Amazon.com for \$48 plus shipping or at the
OSU bookstore**

Fungi Conservation in Europe

Fungi are the ignored species of the conservation world. The few species we take notice of are divided into two kinds: mushrooms, the good fungi, the ones we eat or have found a use for, and toadstools, the bad fungi, the ones kick, spray out or are afraid of. Most people can identify a few flowers but few people can identify any mushrooms.

Very few nature reserves have been set up to conserve fungi. In Great Britain, only four species of fungi are protected, compared with more than a hundred flowering plants and a dozen or so lichens and bryophytes. This is a fair indication of their place in the conservation pecking order.

When you consider their diversity and fundamental ecological importance, this cannot be right. Britain has roughly 12,000 species of non-lichenised fungi and slime molds. The list is growing by 120 species per year, and the real total may be nearer 20,000 species. This would make fungi the most diverse group of organisms after insects. Two unusually well-recorded sites, Esher Common in Surrey and Slapton Ley in Devon, have 3100 and 2500 species of fungi respectively (the homes of active mycological societies). Even when the list is restricted to macrofungi – those which produce fruit bodies easily visible to the naked eye – they still outnumber the flowering plants by two to one. The Netherlands has 3488 species, compared with 1488 vascular plants. Germany, using a slightly wider definition, has 5439. Data from England shows that almost any mature,

semi-natural woodland of over 50 ha will support 400 plus species of macrofungi (though only a fraction of these would be visible on a single visit).

Such figures are a measure of the importance of fungi, but, paradoxically, they also help explain why conservation planners have averted their eyes. The diversity of fungi is daunting. So is the task of identifying them. In fact, finding and identifying fungi takes up most of the time and intellectual energy of field mycologists. With lichens there is more interaction with the conservation world because lichenologists quickly realized that their favorite plants were sensitive indicators of environmental quality. In Europe, the ecology of lichens and bryophytes has been well-studied, and the best sites noted. Although interest in fungal ecology is growing, the subject is still entombed in taxonomic debate. It helps too that lichens and bryophytes are visible year round, though easier to find in wet weather. Fungi have the maddening habit of appearing only briefly, and unpredictably. Some species may fruit only once every decade or so, and at other times are effectively invisible. There is also a vague idea about that the vast amount of spores produced by fungi should ensure their survival; that they do not need special attention (though that idea does not seem to apply to rare orchids, which also produce vast amounts of dust-like seed).

Is there, in fact, such a thing as a rare fungus? There is a germ of truth in the argument that there are no rare fungi, only misunderstood ones. Once you start looking for a particular species, you often find it. Certainly most of those targeted by conservation agencies in Britain turn out to be less rare than was thought.

An example is the Sandy Stilt Puffball (*Battarraea phalloides*), a bizarre fungus with a stout, shaggy stalk topped by a small brownish cap dusted with spores. It appears to be rare throughout Europe, and is listed by the Bern Convention on the conservation of European

wildlife. But over the past ten years it has been found in many more places across England, mainly on verges and waysides on sandy soil, sometimes in association with old stumps and woody debris. Fortunately its brown stalks persist over winter, enabling the species to be detected. Like so many fungi, an appearance in a popular field guide makes a world of difference.

However there certainly are rare fungi, and in roughly the same proportion as those of vascular plants or lichens. Of the 8000 European species of macrofungi, the Dutch authority Eef Arnolds* believes that about a quarter should be considered threatened or vulnerable on a European scale. Individual countries, mainly in northern Europe, have published Red Lists of fungi, although they have been chosen on different criteria and on varying amounts of data. Germany, the Netherlands, Poland, Lithuania and the Scandinavian countries are the best surveyed countries.

Why are so many fungi rare? One reason must be habitat sensitivity. Certain habitats are outstandingly rich in fungi, notably undisturbed, old growth forest (especially oak, beech and pine), meadows with old trees and short unimproved grassland, including fixed dunes. What they have in common is natural soil, deficient in dissolved nitrates and phosphates. It seems that fungi are as sensitive as lichens to chemicals, such as nitrate fertilizer, and that whole groups of species are reliable indicators of pristine, unimproved habitats. Of course, such habitats are themselves rare or in decline, which lends an air of urgency to the exercise. Site protection, based as it is on plant vegetation, will have missed many sites of importance for fungi, such as grazed, acid grassland, poor in vascular plants but rich in fungi like waxcaps, fairy clubs, earth tongues and earthstars. Such sites may be very small, and even seem artificial. In Britain outstanding examples of fungus-rich grassland occur on the lawns of old country houses or in churchyards.

To get conservationists interested in fungi, species need to occur in special sites. In Britain, a start has been made on a register of rich and well-recorded fungal sites coordinated by the Fungus Conservation Forum, administered by the conservation charity Plantlife. To date, field mycologists have provided some 500 sites, varying from several square miles down to less than an acre. The Forum has also produced a booklet on land management guidelines that benefit fungi. Other projects in progress include the preparation of a modern checklist of British fungi and a much-expanded fungal records database. Even so, the conservation of fungi labors under conditions of peculiar difficulty, with only a small and diminishing number of professional mycologists involved with British macrofungi, and even fewer experts in conservation institutions. Hence the tired old quarrel about collecting for the pot still prevails, even though most of those who know anything about it realize that, collecting is the least of the problems faced by fungi. Fungi are indeed under threat, but the underlying cause is habitat destruction.

The fluidity of fungal taxonomy creates problems for conservation planners. An example comes from England; the Royal Bolete, *Boletus regius*, a richly colored toadstool believed to occur in parks and wood-pasture on warm, sandy soil where it is associated with mature oak trees. It is one of four species protected in Britain. Investigation revealed that nearly all preserved British material assigned to this species belonged to *Boletus pseudoregius*, described in 1989 and differing by its paler cap color and color changes when bruised. The only certain British record of the true Royal Bolete is from the New Forest in 1987. *Boletus pseudoregius*, on the other hand, turns out to be widespread in southern England, and by no means confined to parks and oak trees. Almost everything we thought we knew about the Royal Bolete turns out to be wrong – including an unlikely claim that it was eagerly sought after by (presumably frustrated) gourmets!

National Red Lists of macrofungi in Northern Europe (from Arnolds, 1998)

Country Year of list No of species

Austria	1986	211
Czech Repub.	1995	120
Denmark	1990	898
Finland	1992	325
Germany	1992	1402
Great Britain	1992	453
Lithuania	1999	740
Netherlands	1996	1655
Norway	1997	831
Poland	1992	1013
Sweden	2000	609
Switzerland	1997	232

Peter Martren is a botanist, writer and keen mycologist. His latest book, 'Nature Conservation: A review of wildlife conservation in Britain 1950–2001', will be published in the spring of 2002.

Fungi conservation in the US is ab it behind Europe.

Join us in Fungal Fun!

Mail completed form and check/money order to:

**Cascade Mycological Society
P. O. Box 110,
Eugene, OR 97440**

- Oyster (Senior/Student/low income) \$ 10
- Chanterelle (Regular) \$ 15
- Morel (Family) \$ 30
- King (or Queen) Bolete (Sustaining) \$ 50
- Horn of Plenty (Life) \$ 300
- Matsutake (Business/Agency) \$ 100

please make checks out to the Cascade Mycological Society. Thank you!

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is this a renewal? _____ (thanks) new membership? _____ (welcome!) Change of address? _____

I am interested in participating in the _____ committee(s).

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