An Inventory of Fungi at Boulder Lake Environmental Center

This brochure illustrates a number of the more common and interesting fungi to help visitors to Boulder Lake Environmental Center better understand and enjoy this great natural area. It is also an introduction to mushrooms with links to more information.

What is a mushroom?
Mushrooms are the fruiting bodies of fungi (singular: fungus). The umbrella shape we think of is one of many shapes that best spread the microscopic spores of that fungus so that new fungi of that type can grow elsewhere. The mushroom grows out of the much larger mycelium (plural: mycelia), tiny threadlike filaments called hyphae (singular: hypha) that grow in the substrate or growing medium which that fungus can digest. Some grow in the ground, some inside wood, some even grow on other mushrooms! There are lots of different types of fungi with lots of different shapes, some of which never make mushrooms. The mushrooms in this brochure are only the ones that were identified during 2013. There are thousands more, many that have not yet been scientifically identified.

What’s in a Name?
Although some mushrooms have common names, most are called by their scientific name including a genus (plural: genera) and a specific epithet, the species; sometimes the name includes the mycologist (the fungus scientist) who did the accepted description of that fungus, and maybe the date it was described. For example, the common white mushroom you buy at a grocery store is *Agaricus bisporatus* Contu (1993). Names change! Especially now that we can do DNA studies mycologists are finding out that some fungi that they placed in a genus because they looked similar are quite different, and there are sites on the internet like indexfungorum.org dedicated to keeping track of the synonyms and history of name changes.
How to Describe a Mushroom You Find?

If you would like to find the name of a mushroom, in addition to a picture it is important for an identifier to know where it was, what time of year, and what trees or plants it was near. You can make a spore print by putting the cap on a piece of white paper and covering it loosely for a few hours to overnight; the color of the print is often an important characteristic in identification. While you are doing that, write down the shape, color and texture of the cap, gills, and stem, and whether the base has a sac or volva, so it is important to dig a little bit down when collecting the sample. If you get really into this, many fungi are identified by the microscopic characteristics of the spores and the cells around them or the structure of the hyphae in the cap or stem, or the reaction to particular chemicals. Some of the technical terms may seem like jargon but are very helpful in description and tip sheets should be available where you got this brochure.

A very good source for more about mushroom identification is mushroomexpert.com This has pages on how to do a spore print and other ways to identify fungi as well as lots and lots of information on particular fungi and groups. There are also keys you can use to identify your mushroom by choosing branches of the key by the characteristics you record until you get to your specific fungus.....or not. Sometimes identification is easy, and sometimes......well......it is not possible to identify the mushroom with the information and experience you have; so it is time to ask others. Of course the best way is to go on a foray (think foraging) with people who know their mushrooms; we’ll talk more on that later. An internet source for the amateur mycological community is MushroomObserver.org. There is even a project there called Boulder Lake Inventory with all the fungi identified so far. You can also create an observation: a picture and description of your mushroom for identification help! You will need to create an account but this is easy and free. Other knowledgeable members are checking new observations and usually offer identifications and/or comments.

Can I eat it?

Like a lot of things, you might want to get to know it better before getting too personal. There are many 'look-alikes', especially if all you have is a picture. Edibles listed in this brochure should be verified by an experienced mushroomer. While there is a lot of information in books and online, there is no substitute for field experience.

Who can I talk to?

Depends on where you live or are willing to travel. Near the Twin Cities, the Minnesota Mycological Society (http://www.minnesotamushrooms.org/) has nearly monthly meetings on the St Paul Campus of the UM and has forays for members mostly at state parks in the region.

In central to northwestern Minnesota the Paul Bunyan Club (http://paulbunyanmushroomclub.areavoices.com/) has forays and informative meetings. Check their blog.

And if you are near Boulder Lake Environmental Center please let this be an invitation to join us most Sunday mornings for Boulder Lake Walks. Check the calendar for the place to meet.

You Can Learn Some Things from Books

Local naturalist Larry Weber wrote the ‘right-sized’ Fascinating Fungi of the North Woods together with Cora Mollen. It is a great book to start. Mushrooms of Northeastern North America by Bessette and Fisher is extensive and authoritative with good keys and photographs. The Kingdom of Fungi by Jens Petersen is a lovely, informative, and affordable recent publication worth having. Also on the internet, Wikipedia has the entry Mushroom with enough information to keep anyone busy for awhile.
Boletes are usually soft, umbrella shaped mushrooms that have pores instead of gills and grow on the ground. This is just another strategy for dispersing spores that fall out of the tubes by gravity and get blown away by wind. They are mycorrhizal with various trees. The most common are Boletus, Suillus, and Leccinum. Spore prints are often dark brown.

**Suillus americanus**  “chicken fat” Suillus, American Slippery Jack

The common name is obvious from the deep yellow cap with brown spots and a ‘greasy’ feel when moist. Pore surface starts yellow and turns brown with age and the stem has dark spots. July to October. Fairly common. Mycorrhizal with white pine. Edible but not choice as they turn black and slimy when cooked.

**Suillus granulatus**

‘Granular’ looking cap is moist to sticky and the stem has pinkish tan to brownish spots. Found under white pine, they are edible and desirable especially when dried and not buggy. Pores start yellow and become brown.

**Leccinum holopus**  Birch/Bog Bolete

Leccinum is distinguished from other boletes by the tufts of fibers on the stalk that look like scabs, hence ‘scabers’ rather than spots. This one is mycorrhizal with birch. Again, edible but not desirable. Some people have gastric problems with Leccinum.
<table>
<thead>
<tr>
<th>Chalciporus piperatus</th>
<th>In general, red pored boletes are not edible. As the name suggests, this one is usually peppery tasting and not edible. Almost always found under conifers.</th>
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<tr>
<td>Boletus cf. subclavipes  King Bolete</td>
<td>Note the reticulation on the stem present in many Boletus species (this is a very small specimen). Growing near spruce, it is our local version of the King Bolete which is likely several species in different parts of North America. July to September. Edible and desirable.</td>
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