

MINNESOTA MYCOLOGICAL SOCIETY NEWCOMER'S PACKET

INTRODUCTION

This packet represents several months of effort by members of the Information Packet Committee of the Minnesota Mycological Society. We have tried to present basic information about mushroom hunting in a simple, direct manner to eliminate much of the confusion commonly experienced by beginners. Mycology can be extremely technical, but it need not be so. We feel that everyone should be able to proceed at his or her own pace to the level of knowledge about wild mushrooms desired. This packet will serve as a foundation for that study. This information should help you learn which mushrooms are edible and which are not, in a safe scientific manner. Further knowledge about this fascinating subject may be gained by attending Society meetings, forays, and special programs. Workshops and classes are available from other sources as well.

So, proceed to learn what you will, and safe hunting...

MYCOLOGY VS. MYCOPHAGY

Many people take up mushroom hunting in order to find mushrooms to eat. Eating mushrooms is called *Mycophagy*. In order to learn which mushrooms are safe to eat, one must first study them in some detail. This study of mushrooms is called *Mycology*.

The only way we know whether a mushroom is safe to eat or not, is that we have a record of someone having eaten it in the past. Most prospective mushroom hunters know that some mushrooms are deadly poisonous. While that is true, there are many other degrees of poisoning as well. Anyone who plans to pick mushrooms to eat must be aware of the facts of mushroom poisoning.

A FEW NOTES ON POISONOUS MUSHROOMS AND TOXINS

We should first note that very few of the thousands of wild mushrooms have been tested for edibility or the presence of toxins. While relatively few species are poisonous, some of the most poisonous are quite common.

Toxins, or poisons, are compounds that produce abnormal effects on the human body. These abnormal effects may take many forms. The toxins in most species are not usually fatal. They merely cause various levels of discomfort, or in some cases, hallucinations. However, a few species have toxins that or potentially fatal or extremely debilitating.

Mushrooms can cause poisoning in a number of ways:

<u>Allergic Reactions</u>: Individuals can have an allergy or hypersensitivity to an otherwise edible mushroom, just as they could with any other food.

<u>Overindulgence</u>: Eating too much of any food can cause upsets. Raw mushrooms are especially bad. Always cook adequately.

Food Poisoning: Ingestion of rotten mushrooms will always cause trouble.

<u>Contaminated mushrooms:</u> Insecticides, fungicides, mercury and lead can all contaminate mushrooms found outdoors.

<u>Toxic Mushrooms:</u> Some mushrooms in fact produce poisonous substances which are contained in the fruiting bodies themselves.

<u>Alcohol Reaction:</u> Some species of mushrooms produce a toxic reaction only when consumed with alcohol.

Imagination: Having doubts about the safety of what a person has eaten can cause discomfort whether there is any physiological basis for it or not.

MUSHROOM POISONING

The two most common causes of mushroom poisoning are carelessness and ignorance. These causes can be readily eliminated. Learn about mushrooms and be careful.

IF YOUARE NOT SURE OF WHAT IT IS: DONT EAT IT!!!

There is no rule of thumb for distinguishing edible from poisonous mushrooms. The only safe method is to make an accurate identification of the mushroom to genus and species. You then must rely on the most up to date information available for that species. You can forget all the Old Wives Tales you may have heard. Learning to identify mushrooms that are safe to eat is not difficult, but it does require careful study and should not be taken lightly. There is no substitute for a positive identification.

Much more specific information on poisonous mushrooms, including their identification, toxins, symptoms of poisoning and treatment can in found in some of the better guide books. We recommend that you purchase one or more of these guides and learn to use them.

If you suspect you may have eaten any poisonous mushrooms, the two most important steps are:

SEEK IMMEDIATE MEDICAL ATTENTION! ISOLATE AND IF POSSIBLE IDENTIFY THE MUSHROOM RESPONSIBLE

CALL POISON CONTROL CENTER: 1-800-222-1222

SCIENTIFIC NAMES

A few fungi have common names while all are given scientific names just like every other living plant and animal. Scientific names are made up of two parts. The First is always capitalized and indicates the *Genus*. It is equivalent to its family name. The second part of a mushroom name refers to its *species* and is similar to a person's first name. Species names are not capitalized.

Scientific names are made up of Latin and Greek words which describe some feature of the mushroom. For example *Amanita muscaria* is a mushroom whose generic name *Amanita* is Greek for "mushroom". The specific name, *muscaria* is Latin for "flies", because it was believed to attract and kill flies when they sipped some fluid from the cap.

Scientific names for plants and animals are used to avoid confusion in the technical literature. Common names may vary from place to place while the same scientific names are used everywhere, with some confusing exceptions. Taxonomy is the science of classification by which all Plants and Animals are placed in some genus and given a specific species name. Unfortunately professional mycologists follow different schools of thought about which mushrooms belong to which genera (plural of genus) and to some extent what species names should be. It is a source of constant frustration and irritation for amateurs like us, who "just want to know what the *#@#* thing's name is". We should remember that while mycologists may follow different schools of thought, they do so consistently. This will become clearer as your study of mushrooms progresses.

<u>Disclaimer:</u> The purpose of this packet is to provide a foundation for people interested in fungi. The Minnesota Mycological Society cannot accept any responsibility for your misidentification of specimens or any reactions you may have from eating them. It is up to you to know what you are eating. Just as birdwatchers do not have to eat the birds they watch, neither do you have to eat every mushroom you find. You eat at your own risk.

Background Information On the Minnesota Mycological Society

The Minnesota Mycological Society is the second oldest organization of its kind in the United States. Originally organized in the 1890s, the Minnesota Mycological Society was officially incorporated in 1899.

The original purpose of the group was, "...scientific study and experimentation on upon fungi as a food product, gathering and dissemination of knowledge on that subjects and the perpetuation of same by publication of facts obtained and collectors made.

While the group is still very committed to the identification and dissemination of knowledge about mushrooms, it has also become a social activity for members and their families. Today, it is just as important for the society's members to enjoy an outing in the woods, as it is to identify various fungi.

The Minnesota Mycological Society is putting the "Fun" back in Fungi.

The Minnesota Mycological Society holds meetings on the second Monday of each month, with additional meetings during the mushroom season on the fourth Mondays of April, May, September and October. These meeting provide information on various fungal topics including fungi that are available in the area, how to safely forage for them and help identify mushrooms brought in by members and visitors. In addition recipes using wild edible mushrooms are discussed as well as how to safely store or preserve mushrooms for later use.

Four times a year, the Minnesota Mycological Society publishes a newsletter to keep its members informed of the various activities of the group. Those members who are not able to attend the regular meetings especially appreciate these.

The Minnesota Mycological Society sponsors regular forays to help both novice and experienced members learn how to collect and identify mushrooms in their natural habitat.

The Minnesota Mycological Society is an affiliate of the North American Mycological Association, and is one of about 75 similar organizations in the United States.

Membership in the Minnesota Mycological Society is open to anyone interested in fungi. the annual dues are just \$20 for individuals, \$25 for families and \$15 for students who opt for electronic newsletter delivery. Those opting for hardcopy postal delivery pay and additional \$20.

The Minnesota Mycological Society welcomes and encourages those interested in fungi, and in particular mushrooms, to become an active member. More information about the Minnesota Mycological Society and how to become a member can be obtained by writing the group at the address below or by going to our web site.

MINNESOTA MYCOLOGICAL SOCIETY
PO Box 211444
Eagan, MN 55121

http://www.minnesotamycologicalsociety.org



HOW TO GET INVOLVED IN THE MMS

If you enjoy the Society here's how you could get more involved!

FORAYS: Participate in them yourself.

You could organize and lead one of your own.

Suggest foray locations, where you think there are lots of mushrooms.

WRITING: Write an article for the newsletter. Anything with the word "mushroom" in it will be printed. Relate your personal experiences.

Report on a foray. Share your knowledge. Share a recipe.

Say what you think about the society.

Write a letter to the editor.

Volunteer to help with the newsletter publication.

MEETINGS: Arrive early to help set up.

Stay a little late and help clean up.

"Show and tell", bring in fungi you have found.

Speak up at the meetings.

Give a talk on something you know about

Bring a friend. All our meetings are open to visitors.

Bring photos, slides, news clippings... anything else to share or trade.

Plan a program for one of our meetings. Invite a guest speaker.

<u>IDENTIFICATION:</u> Learn by doing.

Help "ID" mushrooms at the meetings and on forays..

Be a mentor to newcomers in the art of mushroom identification.

EVENTS: : We can always use people to help out at community events.

Environmental Expos, nature centers, Science Museum of Minnesota, Minnesota Landscape Arbroretum, and area school events.

Enter the Annual MMS Photo Contest

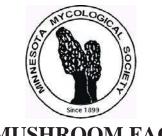
Come to the annual pot luck dinner.

Come to the annual Awards Banquet.

TALENTS AND RESOURCES:

Tell us if you have any talents or resources you'd like to share with your society. Don't be shy, tell anyone who seems to know what they're doing what you would like to do.

THE BOARD: Run for office! If the idiots who run things now can do the job why can't you?



10 MUSHROOM FACTS

From the Minnesota Mycological Society

1. Mushrooms are actually the fruiting bodies of fungi.

- 2. Mycology is the study of the kingdom fungi which became its own kingdom in 1969.
- 3. The nation's second oldest organization dedicated to the study of mushrooms is located in Minnesota. The Minnesota Mycological Society has been in existence since the 1890's.
- 4. There are literally thousands of deferent types of mushrooms found in Minnesota. VERY FEW have been tested for edibility or the presence of toxins.
- 5. There is no rule of thumb for distinguishing edible mushrooms from poisonous ones.
- 6. While relatively few species are poisonous, some of the most poisonous types of mushrooms are very common. Unless you are positive of the type of mushroom, don't eat it.
- 7. The mushrooms most often found in your grocers produce department are *Agaricus bisporus*.
- 8. The Morel mushroom is perhaps the best-known variety of wild mushroom in Minnesota. It is also one of the most expensive to buy.
- 9. The Morel mushroom is Minnesota's official state mushroom.
- 10. The best time of the year to find Morels in the wild is in the month of May.

The Minnesota Mycological Society welcomes and encourages those interested in fungi and in particular mushrooms to become an active member. More information about the Minnesota Mycological Society and how to become a member can be obtained by visiting our web site at:

www.minnesotamycologicalsociety.org

or MINNESOTA MYCOLOGICAL SOCIETY PO Box 211444 Eagan, MN 2744

952-890-8744 email: JML313@aol.com



TIPS FOR MOREL HUNTERS

WHEN: Morels fruit during the month of May. When they appear depends on the amount of rain and on the temperature. In general they are most numerous during the second and third week of tile month.

WHERE: Morels grow just about anywhere. They like alkaline soils and disturbed areas; they are frequently found under dead or dying American elm. To find morels look for them in the right habitat. Check the area carefully and then check again. Morels are masters of camouflage. If you find a morel in a place, the chances are you will find more if you keep looking.

HOW: Cut the mushroom near the base with a knife. Place it in a basket or a paper bag. Never collect mushrooms in a plastic bag where spoilage could begin very quickly. Store them in a refrigerator wrapped in wax paper or in a rigid container with a lid, and they will remain fresh for a week or longer. Morels can also be dried. A food drier is best for this, but an oven on "warm" setting with the door ajar will also serve the purpose. Store the dried morels in a container that will protect them from moisture Dried morels can be reconstituted by soaking them in water. Get rid of the excess moisture using a salad spinner or pat them dry with a paper towel, and use like fresh morels. Some claim that long storage in the dried condition improves the flavor. Sautéed morels arc delicious as a side dish or added to scrambled eggs. They are also good made into a cream soup or cut in half stuffed and baked.

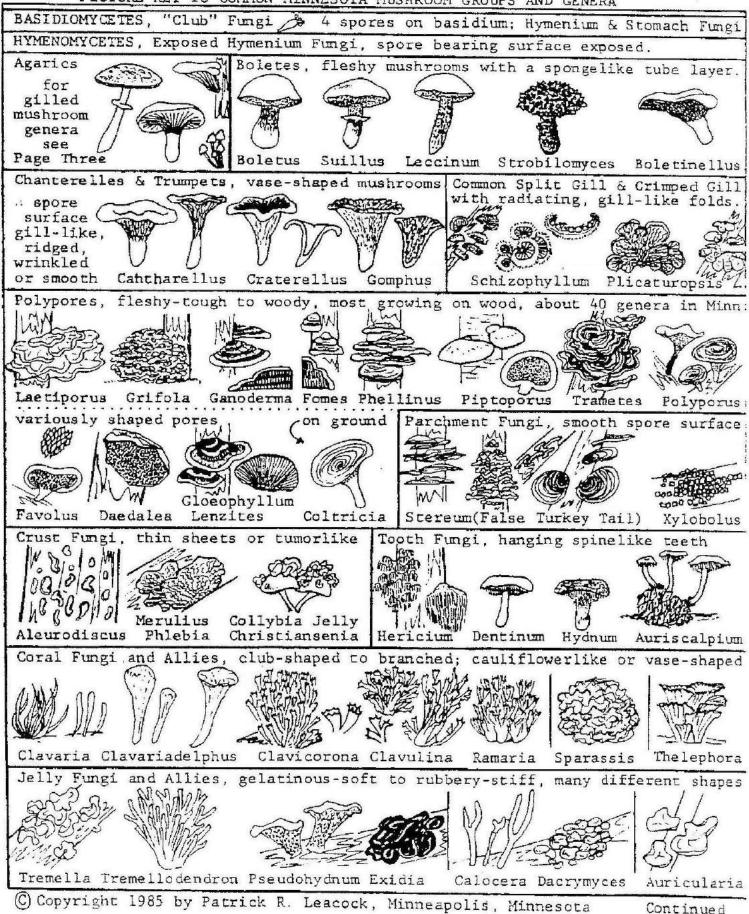
WORDS TO THE WISE!!!!

- Morels, in fact wild mushrooms in general should not be eaten raw. They contain chemicals that break down during cooking, but could make you ill when eaten raw.
- Morels are frequently found in old orchards but we advise against picking morels there. Many of the insecticides that were used to protect the fruit harvest persist in the soil for years and could find their way into the mushroom.

Before you eat wild mushrooms verify the identity of the mushroom, check in a field guide, such as The Audubon Society Field Guide to North American Mushrooms, paying special attention to the cautions. In addition you should check with experienced mushroom hunters.

You are welcome to bring your questions to the Minnesota Mycological (mushroom) Society which meets the second and forth Monday evenings during the month of May. For more info visit our web site: www.minnesotamycologicalsociety.org





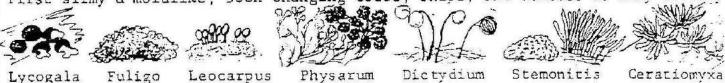
* PAGE TWO OF FOUR * MINNESOTA MYCOLOGICAL SOCIETY PICTURE KEY TO COMMON MINNESOTA MUSHROOM GENERA BASIDIOMYCETES Continued GASTEROMYCETES, Stomach Fungi, spores borne within fungus in gleba (spore mass) True Puffballs & Earthstars Earthballs, thick rind Stalked Gastroid Agarics Puffballs or rays Calvatia Lycoperdon Geastrum Scleroderma Astraeus Tulostoma Stinkhorms, green slimy top & False Truffles Bird's Nest Fungi, cups w/ eggs Mutinus Phallus Dictyophora Rhizopogon Crucibulum Cyathus Nidularia ASCOMYCETES, "Sac" Fungi 8 spores in ascus; Disk & Flask Fungi DISCOMYCETES, Disk Fungi, fertile surface exposed (except in tuber-like fungi) Cup Fungi and Allies, cups, goblets, urns; pitted, folded, saddle-shaped heads Galiella Humaria Peziza Pachyella Sarcoscypha Aleuría Scutellinia Otidea Pseudoplectania Tuber-like Saddles False Morels True Morels Helvella Rhizina Morchella (Elaphomyces Verpa Gyromitra Earth Tongues and Allies, small and variously shaped, many brightly colored. Green Stain



PYRENOMYCETES, Flask Fungi, spore sacs(asci) in many minute flasks (perithecia)



MYXOMYCETES, Slime Molds; amoebalike protoplasm able to move & ingest nutrients First slimy & moldlike, soon changing color, shape, and texture as they develop



MUSHROOM CHARACTERISTICS	SPORE PRINT White, Buff,	COLOR (not nec	essarily gill	color)
	Cream, Yellow, Lilac, Green	Brownish-pink Flesh Color	Ochre- to Rust-brown, Earth Brown	Purple-brown Dark Brown Blackish
Cap of different structure 1	Amanita			
	Amanita	11-1-2-2-33		
Cills free (or slightly attached) 3 1 Ring and volva or remnants 2 Volva but no veil or ring	Laniota	Volvariella		
	Chlorophyllum Limacella			Agaricus Coprinus
	Limacella	Pluteus		Coprinus
Cap & stalk of same structure, 5	Amanita			
	(Amanita)	<u> </u>	1	di .
Stalk fleshy to fibrous. 5 Ring and volva or remnants.	Armillaria Armillariella		Agrocybe Cortinarius Cymnopilus	Chroogomphus Gomphidius Panaeolus
6 Veil and ring but no volva.	Cystoderma		Inocybe	Psathyrella
Veil may be cobwebby leaving	Lentinus		Pholiota	Naemacoloma
only a fibrous zone on stalk.			Rozites	Psilocybe
Check young mushrooms.	-		Hebeloma	Stropharia
7 No veil, ring, or volva. 7	Hygrophorus	Encoloma	Agrocybe	Panaeolus
Gills adnexed or notched.	Lactarius		Hebeloma	Psathyrella
8 No veil, ring, or volva. Gills admate to decurrent.	Russula	Clitocybe	Inocybe	Naematoloma
9 No volva, may have veil.	Tricholoma (A)			
Stalk consistently off-center, 8	Tricholomopsis	6175		
lateral or absent.	Clitocybe (B)	Clitopilus Entoloma	Paxillus	Gomphidius
Growing on wood.	Hygrophoropsis	Entoroma	Phylloporus	Chroogomphu
Similar fungi:	Laccaria	Clitocybe		
Schizophyllum, Plicaturopsis,	Leucopaxillus	GITLUCYUE		
Lenzites, and Gloeophyllum	Lyophyllum			14
- white-spored bracket-like	Omphalotus			
fungi with leathery false gills	Hygrophorus			
- not true gilled mushrooms.	Lactarius			
	Russula	1000 0000000000000000000000000000000000		
9	Pleurotus (C)	Claudopus	Crepidotus	
•	Pleurotus © Panellus D	Phyllotopsis	Paxillus	
	Panus	0000	V 3550	
	Lentinellus			
	Lencinus			
Stalk of different structure 10	+ Collybia (E)	En cloma (G)	+ Agrocybe	1 Constant
than cap, difficult to detach.	! Cystoderma	24010	Bolbitius	! Coprinus (
Stalk thin, cartilaginous.	+ Flammulina		1*Conocybe	! Psathyrel
! = May have ring	(Hygrophorus)		1 Galerina	! Psilocybe
* = Cap bell-shaped or conical	Marasmius	22	Tananha	37 3 1 34
+ * Cap convex to plane	* Mycena		+ Naucoria	
or with pit in center	+ Omphalina(F)		!+Tubaria	
NOTES: (Amanita w/ Amanitops (Hygrophorus w/ Hygrocybe, C A) See also Melanoleuca B) C) Pleurotus genera include Pleurocybella, Resupinatu E) See also Clitocybula, Ast and small Clitocybes	amarophyllus) See also Cal Cheimonophyll s (D) See al	(Clitocybe ocybe, Canth um, Hohenbue so Tectella	w/ Lepista) arellula, b helia, Hyps	Melanoleuca Sizygus,

See also Gerronema, Myxomphalia, Rickenella, Xeromphalina

Entoloma (Rhodophyllus) genera include Leptonia, Nolanea, Eccilia See also Alnicola, Simocybe, Ripartites (Coprinus w/ Pseudocoprinus

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