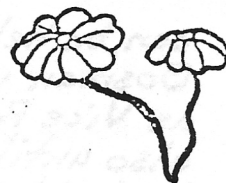


AUGUST 1971

I

LAKELAND MYCOLOGY CLUB

NEWSLETTER



LAKELAND MYCOLOGY CLUB TO MEET AUG 14<sup>th</sup>

The August meeting of the Lakeland Mycology Club will not be held at the Mahlon Dickerson Reservation as had been originally planned. The meeting will be held instead at the Lewis Morris County Park (between Mendham and Morristown) on August 14<sup>th</sup> at 10:00 A.M. The directions are outlined on page III. We will meet at the second parking lot on the left (see Map). In case of heavy rain, the meeting will be postponed until August 21<sup>st</sup>.

The original plans to meet at the Mahlon Dickerson Reservation were cancelled because upon visiting the park to verify our proposed meeting point, the entire park area was found to be in what can only be described as a complete state of disaster. The trees had been completely denuded of leaves and the air was filled with Gypsy Moths. The diseased condition of this potentially beautiful oak-forested park was very depressing.

We might consider rescheduling a fall meeting here after the first frost.

In checking the Lewis Morris County Park, no moth infestation existed.

The park has abundant picnicking facilities and many well marked nature trails. In making a cursory check for Fungi along part of the trail, an amazing and unbelievable find

was made. *Polypilus Frondos* (Men of the woods) — two large round masses were discovered — one weighing nine pounds; the other 13 pounds and about 20 inches in diameter. This is well illustrated in "The Mushroom Hunters Field Guide" by Alexander H. Smith. To validate this "fish" story, several photos were taken and should be available at our next meeting. With luck we may have another live specimen waiting for us when we search the trail in August. By the way this mushroom is edible but unfortunately in this case it was too tough.

RECAP OF JULY MEETING AT THE SILAS CONDUCT PARK

There was a fair turnout at our last meeting — including a photographer from the "Daily Record". When our last publicity notice was called in, Ginny Potter of the Record, expressed interest in doing a feature article on the "Lakeland Mycology Club" and its activities. The article appeared in the July 23<sup>rd</sup> edition, titled "MUSHROOMS", and took up the better part of a full page. The article was very well written and nicely illustrated. Being a small newly formed club, we can all take some pride in that our group and its activities were considered interesting enough to merit the publicity devoted to us by the "Daily Record." (Ginny was thanked)

As suggested in the last Newsletter a discussion period was held prior to starting the mushroom "hunt".

The following subjects were discussed:  
ORGANIZATION: Fred Volkenborn volunteered to act as temporary Treasurer until formal elections

can be held in the Fall. Ed Bosman will continue to act as Vice President-Secretary also until formal elections can be held in the Fall. At that time, when Hiram Korn is back with us, a Full slate can be drawn up.

**MEMBERSHIP DUES:** It was decided that each member would contribute one dollar to the club treasury to cover immediate expenses, and at some later date, when a better idea of the scope of our activities and general expenses are known, the dues necessary to support the club will be announced. All members are requested to submit their one dollar contribution to our Treasurer, Fred Volkenborn, at our next meeting or mail it to:

FRED VOLKENBORN  
38 KADEL DRIVE  
MT. ARLINGTON, N. J.

Those members who made their contribution at the last meeting will find a receipt enclosed with the Newsletter.



### GENERAL CLUB INTEREST

Adele Sieminski brought in a newspaper clipping from the New York Times concerning an antitoxin that has been used effectively in treating victims of mushroom poisoning by the deadly Amanita. Copies of the article will be available at our next meeting.

Geraldine Ihde brought in some spore print samples she had made (Probably of the genus Panazolus) which were black on a white paper background.

Spore prints of course are very useful in identifying

mushrooms, but as demonstrated in this case, they can also make a very interesting collection. If the proper background color is picked, a contrasting pattern of prints can be made from spores that range in color from pastel pinks, yellows, violets and greens to the darker shades of browns and blacks. To prevent smudging, as unfortunately happened to Geraldine's samples, a clear plastic spray should be used which is carried by most Art Stores.

Jean Tippy had a dried sample of the Giant Puffball (*Calvatia Gigantea*) which she passed around. The size of the dried sample gives some idea of the colossal size these mushrooms grow to. No one should have any difficulty in recognizing this mushroom if they find it on their lawn — and its very edible



### MUSHROOM HUNT RESULTS

The results of the mushroom hunt after the discussion period were disappointing due mainly to the exceptionally dry weather experienced in the area. The few Fungi Found were generally shrivelled or decomposing.

Two species of the genus *Russula* were identified (both edible). *Russula Mariae* (Mary's *Russula*) and *Russula virescens* (Green *Russula*).

### COOKOUT??

Some interest in having a cookout after the mushroom hunt was expressed by members at our last meeting. Charcoal and starting Fluid will be available. Any members interested need only bring

their hotdogs, hamburgers, etc., which they can cook at the park. Last meeting most members brought along a picnic lunch.

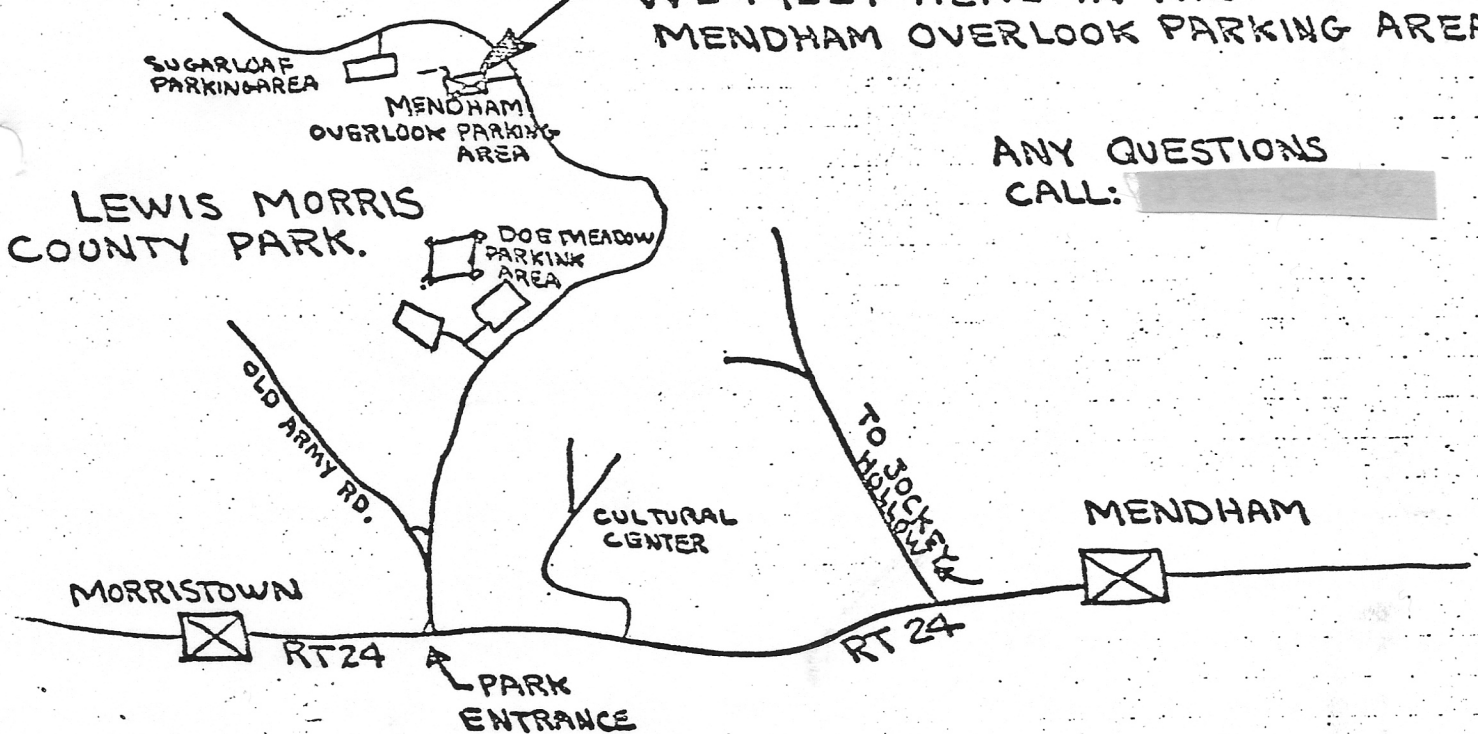
GOOD ADVICE TO MYCOPHAGISTS (MUSHROOM EATERS)

Quote from Professor Morten Lange .... "To minimize possible upsets, one should not at first consume a large quantity of a previously

untried species of edible Fungus, even if its harmlessness is assured by other people from their own personal experience"..... "a few people exhibit varying degrees of allergy towards one or more species." — Quote from Professor Alexander Smithy .... "Eat only one kind at a time so that if any difficulty should develop, the cause is known..." "Eat only young specimens free from insect larvae (worms)..." "Cook specimens well..." "Eat only a small amount when testing a species you have not tried before".... "Do not overindulge under any circumstances."

DIRECTIONS

WE MEET HERE IN THE MENDHAM OVERLOOK PARKING AREA.

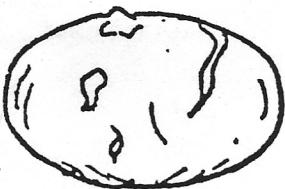


ANY QUESTIONS CALL: [REDACTED]

HEAVY RAIN DATE AUG 21<sup>ST</sup>.

MEETING SATURDAY 10AM AUG 14<sup>TH</sup> AT THE LEWIS MORRIS COUNTY PARK.

BRING YOUR FIELD BOOKS, BASKETS, & LUNCH



## A MYCOLOGICAL BIBLIOGRAPHY

### BASIC

- Shuttleworth & Zim, Non-flowering Plants, Golden Press, 1967  
Miller & Miller, Mushrooms in Color, Dutton, 1981  
Bigelow, Mushroom Pocket Field Guide, Macmillan, 1974

### INTERMEDIATE

- McIlvaine, One Thousand American Fungi, Dover, 1973, (original-1902)  
Krieger, The Mushroom Handbook, Dover, 1967, (original-1936)  
Graham, Mushrooms of the Great Lakes Region, Dover, 1970, (orig.-1944)  
Miller, Mushrooms of North America, Dutton, 1973  
Smith & Weber, The Mushroom Hunter's Field Guide, U. Mich. Press, 1980  
Lincoff, Audubon Society Field Guide to North American Mushrooms, Knopf, 1981

### ADVANCED

Monographs of various Genera are available from:

- Dover Publications, Inc., 180 Varick Street, N. Y., NY 10014  
Lubrecht & Cramer, RFD 1, Box 227, Monticello, NY 12701

Write for mycological catalog.

### LEARNING TOOLS

Largent, editor, How to Identify Mushrooms to Genus series  
Mad River Press, 1977

- I. Macroscopic features
- II. Field Identification of Genera
- III. Microscopic Features
- IV. Keys to Families & Genera

- Smith, Smith & Weber, How to Know the Gilled Mushrooms, Brown, 1979  
Smith, Smith & Weber, How to Know the Non-gilled Mushrooms, Brown, 1981  
Farr, How to Know the True Slime Molds, Brown, 1981  
Miller & Farr, An Index of the Common Fungi of North America (Synonymy and Common Names), Cramer, 1975  
Shaffer, Keys to Genera of Higher Fungi, Edition 2, U. of Mich., 1968

### OF SPECIAL INTEREST

#### History

- Rolfe & Rolfe, The Romance of the Fungus World, Dover, 1974, (orig.-1925)  
Rogers, A Brief History of Mycology in North America, MSA, 1981

#### Crafts

- Rice & Beebe, Mushrooms for Color, Mad River Press, 1980

#### Photography

- Angel, Photographing Nature-Fungi, Fountain Press, 1975

#### Toxicology

- Lincoff & Mitchel, Toxic & Hallucinogenic Mushroom Poisoning,  
Van Nostrand Reinhold, 1977

#### Mycophagy

- Grigson, The Mushroom Feast, Knopf, 1975  
NJMA, The Mycophagist's Corner, NJMA, 1978  
Marteka, Mushrooms, Wild and Edible, W. W. Norton, 1980

Many of the books listed above are available to NJMA members at a discount through the NJMA book committee. Contact the Chairman: Jim Richards. Also, most of these books can be borrowed from the NJMA library. Contact our librarians, Bruce or Janice Van Sant.

*NJMA* FORAY GUIDE

1. Unless otherwise noted in the newsletter, we will meet at the designated Foray area at 10:00 a.m. Groups will be formed and started by 10:15 a.m.
2. Forays will be held Rain or Shine and may be on rough trails or through woods. Dress accordingly. Hiking shoes & mosquito repellent are recommended. Bring a picnic lunch.
3. The Foray Leader is responsible for the conduct of the Foray and the cooperation of members and guests is expected. It is the responsibility of each mushroom hunter to remain with the group.
4. Collection: Paper bags or waxed paper, a knife and a basket are essential. DO NOT USE PLASTIC BAGS OR PLASTIC WRAP. It induces premature spoilage. When collecting for identification, try to get specimens of the same species in various stages of development. Disregard old and rotting specimens. Use a knife to dig up the entire specimen, including those parts below the surface of the substrate. Do not mix different species in the same bag.
5. Specimens belong solely to the finder. However-when mushrooms of particular interest are located, please allow others to examine and photograph them in situ. Disposition of the specimen is the prerogative of the owner, but cooperation with the Taxonomy Group in building the club herbarium is urged for the benefit of the entire membership.
6. Forays will continue until approximately 12:30 p.m. at which time a lunch break will be taken at a picnic area designated by the Foray leader.
7. Identification: After lunch, two tables will be set aside for the sorting, identification and display of fungi collected. Members are invited to place any specimens collected during the Foray on the Sorting Table. Plates and collection forms will be available. Identified specimens will then be moved to the Display Table for general examination.
8. Members are encouraged to bring friends who may be interested in our programs to any club function.
9. Collectors are urged to use good conservation practices and to endeavor to leave foray areas as undisturbed as possible. If fungi populations are repeatedly decimated by over-zealous collectors, future years will see decreases in the size and variety of the fungi flora of the area. Please think ahead!
10. Suggestions are welcome. Please advise the Foray leader or any club officer.
11. WARNING: Never eat anything which has not been positively identified, and known to be edible. Poisonous mushrooms can be fatal. While Foray leaders and others may aid in classification, neither the Association nor the individual members are responsible for the identification of any fungus.

KEY TO WHITE SPORED GILLED MUSHROOMS (Lincoff)

1. Fungus putrescent (soon decaying)	2
1. Fungus not putrescent	11
2. Fungus with an annulus	3
2. Fungus without an annulus	5
3. Gills free	4
3. Gills attached	ARMILLARIA
4. Annulus attached; volva present or stipe bulbous	AMANITA
4. Annulus often free (moveable); volva absent	LEPIOTA
5. Gills waxy; fungus waxy/gelatinous, small, colorful	HYGROPHORUS
5. Gills not waxy; pileus somewhat waxy, pink or purplish	LACCARIA
5. Gills not waxy; fungus not waxy	6
6. Both pileus & stipe brittle (chalklike)	7
6. Stipe only brittle (cartilaginous)	8
6. Pileus & stipe pliant, not brittle	9
7. Fungus exudes milky or colored juice when cut	LACTARIUS
7. Fungus does not exude milk or juice	RUSSULA
8. Cap margin inrolled at 1st; cap medium (2"-6" across) expanding	COLLYBIA
8. Cap margin straight; caps small, conic-bell shaped, not expanding	MYCENA
9. Gills decurrent	10
9. Gills notched, often showing a "race track" around stipe	TRICHOLOMA
10. Gill edge blunt	CANTHARELLUS
10. Gill edge thin	CLITOCYBE
10. Pileus umbilicate	OMPHALIA
10. Stipe eccentric	PLEUROTUS
11. Stipe rubbery, central; pileus similar to Mycena & Collybia	MARASMIUS
11. Pileus leathery, stipe eccentric, on wood	12
12. Gill edge split	SCHIZOPHYLLUM
12. Gill edge serrate	LENTINUS
12. Gill edge crisped	TROGIA
12. Gill edge even	PANUS
12. Fungus woody, Daedalea-like (not truly gilled)	LENZITES

NOTE: WHITE SPORED GENERA can have particular species with off-white to brightly colored spores, e.g., spores pale yellow to ochre: *Cantharellus cibarius* & species of *Russula*; spores salmon: *Tricholoma personatum*; spores lilac: *Pleurotus sapidus* & *Laccaria ochropurpurea*; spores green: *Lepiota mongani* (*Chlorophyllum molybdites*)... Also, white spored species can have deceptively colored gills, e.g., gills yellow: *Amanita caesarea*; gills orange: *Mycena leiania*; gills pinkish: *Collybia acervata*; gills rosy to violet: *Mycena pura*; gills blue: *Lactarius indigo*; gills brownish: *Marasmius cohaerens*...

KEY TO MAJOR GENERA OF PINK TO SALMON SPORED GILLED MUSHROOMS (Lincoff)

1. Stipe eccentric or absent; Pleurotus-like, on wood	CLAUDOPUS
1. Stipe central	2
2. Distinct volva present at base of stipe	VOLVARIA
2. Volva absent	3
3. Gills free; spores not angular	PLUTEUS
3. Gills attached	4
4. Gills decurrent; spores not angular	CLITOPILUS
4. Gills not decurrent (except for <i>ECCILIA</i> ); spores angular	ENTOLCMA

KEY TO MAJOR GENERA OF BROWN TO BLACK SPORED GILLED MUSHROOMS (Lincoff)

1. Stipe eccentric or absent; Pleurotus-like, on wood	CREPIDOTUS
1. Stipe central	2
2. Gills dissolving into black liquid	COPRINUS
2. Gills not dissolving	3
3. Pileus dunce-cap-like, gills cinnamon; fragile, on grass	CONOCYBE
3. Not as above	4
4. Gills separable from pileus; boletus-like	PAXILLUS
4. Not as above	5
5. Annulus persistent	6
5. Annulus fugacious, leaving zone on stipe or absent	9
6. Gills free	AGARICUS
6. Gills attached	7
7. Spore print purple-brown	STROPHARIA
7. Spore print yellow-brown to dark brown	8
8. Spores smooth	PHOLICTA
8. Spores roughened, warty, with plage	GALERINA
9. Fungi mostly on dung	10
9. Fungi not on dung	11
10. Spores black to purple-black; color unchanged in H <sub>2</sub> SO <sub>4</sub>	PANAEOLUS
10. Spores purple-brown; stipe staining blue in some species	PSILOCYBE
11. Fungi like PANAEOLUS/PSILOCYBE; spores purple-brown	12
11. Not as above; terrestrial	13
12. Spores discolor in H <sub>2</sub> SO <sub>4</sub> ; Cap cuticle cellular	PSATHYRELLA
12. Cap cuticle filamentous; Cespiteose on wood	NAEMATOLOMA
13. Spores yellow-brown; pileus with radial fiber-like hairs	INOCYBE
13. Spores clay-brown; pileus viscid	HEBELCMA
13. Spores cinnamon or rusty-brown; when young cortina visible	CORTINARIUS

SOME NON-GILLED MUSHROOMS IN OUR AREA GROUPED ACCORDING TO FIELD CHARACTERS...

1. Club-like fungi
  2. Coral fungi
  3. Jelly fungi
  4. Cup fungi
  5. Morels and their allies
  6. Chanterelles and their allies
  7. Tooth fungi
  8. Shelf fungi: polypores, etc.
  9. Pore fungi with central stalks: boletes, etc.
  10. Stomach fungi
    - a. Puffballs
    - b. Earthstars
    - c. Bird's nest fungi
    - d. Stinkhorns
- 
- I. CLUB-LIKE FUNGI
    1. Fruit body soft, attached to underground insects or 'tubers' CORDYCEPS
    2. Fruit body soft, club- or worm-like (see Coral fungi) CLAVARIA
    3. Fruit body soft to firm, spoon-like or with fan-like top GEOGLOSSUM, etc.
    4. Fruit body soft, slimy, with cap LEOTIA
    5. Fruit body hard, first gray, then black, stubby finger-like XYLARIA
  
  - II. CORAL FUNGI
    1. Fruit body soft, worm-like or club-line, usually unbranched CLAVARIA
    2. Fruit body soft, thick-branched RAMARIA
    3. Fruit body slimy to hard, yellow (see Jelly fungi) CALOCERA
    4. Fruit body tough, dense, white (see Jelly fungi) TREMELLOPENDRON
    5. Fruit body soft, ruff- or cauliflower-like, cream, large SPARASSIS
  
  - III. JELLY FUNGI
    1. Fruit body ear-like, brown, on wood AURICULARIA
    2. Fruit body brain-like (wavy or folded) small to large TREMELLA
    3. Fruit body gelatinous, small, orbicular DACROMYCES
    4. Fruit body gelatinous, translucent, with toothlike spines PSEUDOHYDNUM
  
  - IV. CUP FUNGI
    1. Small, on ground, reddish-orange ALEURIA
    2. Small to medium, on ground or wood, colorful to brown PEZIZA
    3. Small, cup-like, with jelly layer BULGARIA
    4. Cup flattened, veined, brown, white beneath, not gelatinous DISCINA
  
  - V. MORELS AND THEIR ALLIES
    1. Sponge-like cap attached to stem at cap base or midway to apex MORCHELLA
    2. Sponge-like cap (smooth or wrinkles) attached at apex of cap only VENPA
    3. Cap saddle-like HELVELLA
    4. Cap brain-like GYROMITRA
  
  - VI. CHANTERELLES AND THEIR ALLIES
    1. Hymenium (layer producing spores) gill-like CANTHARELLUS
    2. Hymenium vein-like GOMPHUS
    3. Hymenium smooth to fold-like CRATERELLUS
    4. Hymenium anastomosing (branching irregularly) (see Boletes) GYRODON
  
  - VII. TOOTH FUNGI
    1. With stalk; spores white (e.g. repandum) DENTINUM
    2. With stalk; spores brown (e.g. imbricatum) HYDNUM
    3. Soft, stalkless, on wood; mass of hanging spines HERICUM  
(e.g. coralloides)
    4. Hard, stalkless, on wood; mass of hanging spines IREPEX  
(e.g. I. lacteus)
    5. Large, hard, stalkless, shelving layers on wood STECCHERINUM  
(e.g. septentrionale)
    6. Small, woody, shelf fungus with violaceous teeth POLYPORUS  
(P. pergamenus)
    7. Fruit body gelatinous, translucent, with toothlike spines PSEUDOHYDNUM
  
  - VIII. SHELF FUNGI
    1. With pores, one layer only (annual); woody or fleshy POLYPORUS
    2. With pores, new layer each year (perennial); woody FOMES
    3. With pores, perennial; surface of pileus varnished; woody CANODERMA
    4. Hymenium labyrinthine; woody DAEDALEA
    5. Hymenium lamellate (gill-like) but woody LENZITES
    6. Hymenium with large angular pores, hexagonal; soon woody FAVOLUS
    7. Pileus viscid, context red-veined, fleshy (meat-like) FISTULINA
    8. Large, hard, stalkless, shelving layers on wood STECCHERINUM
    9. Hymenium smooth, without pores; shelves leathery or parchment-like STEREUM
  
  - IX. PORE FUNGI WITH CENTRAL STALKS
    1. Woody POLYPORUS
    2. Fleshy; cap floccose (pine cone-like) STROBILOMYCES
    3. Fleshy; pores like anastomosing gills, inseparable from cap BOLETINUS
    4. Fleshy; tubes separable from cap BOLETUS
  
  - X. STOMACH FUNGI
    1. Globose or turbinate, 3-12+ across; fragmenting at maturity CALVATIA
    2. Globose or pyriforme, 4-3 across; sporing through apical hole LYCOPERDON
    3. Globose, 4-3 across; tough skinned; sporing through apical crack SCLERODERMA
    4. Earthstars; with stellate base ASTRAEUS & GEASTER
    5. Bird's nest fungi; with "eggs" in "nests" CYATHUS & CRUCIBULUM
    6. Stinkhorn: orange/red gleba (head) MUTINUS
    7. Stinkhorn: green gleba PHALLUS
    8. Stinkhorn: green gleba, with fishnet on stalk DICTYOPHORA

NOTE: Key prepared by Mr. Gary Lincoff

\*\*\*\*\*

## MYCOLOGY - THE STUDY OF FUNGI

What is a mushroom? In scientific nomenclature, the mushroom is a fungus and belongs in the Microbial Kingdom of Fungi which includes yeasts and molds. Approximately 300,000 species exist of which roughly 10% are the larger fleshy fungi or mushrooms.

Unlike the green Plant Kingdom, fungi have no roots, flowers, seeds, or leaves and contain no chlorophyll. Therefore they cannot use sunlight to convert carbon dioxide to food (photosynthesis) and must rely on food material produced by other plants and/or animals. The vegetative part of the fungus is usually microscopic threadlike or filamentous cells called hyphae. In mass they are called mycelium or spawn and occur underground or in wood.

The familiar mushroom or toadstool is actually the fruiting body of the fungus. Its sole purpose is to produce spores thereby insuring the continuation of the species.

Spores are the seed equivalent of a plant but contain no nutrient and usually consist of one cell. The size is so small (4-10 microns) that a 3 inch cap will release 1.8 billion spores. Taking a spore print and observing the color is one of the aids in general identification.

Why a mushroom exists. Nature's method of balancing the ecosystem is to provide the decomposers of organic matter produced by plants and animals. Thus complex organic structures are reduced to simple inorganic elements available to be reutilized. Fungi, lacking in chlorophyll and living on organic matter, are nature's recycling agents. Three types exist.

- Saprophytes - Live on dead organic matter.
- Parasites - Invade and may kill living plants.
- Mycorrhizae - Form mutually beneficial relationship on roots of trees, each supplying the other with nutrients.

If we are collecting fungi for food, knowledge of the fungus' purpose enables us to determine the habitat and more readily find and identify desirable edibles. Examples:

- Saprophytes - Agaricus campestris on decaying grasses.  
Pleurotus ostreatus on dead wood.
- Parasites - Armillariella mellea, the well known stump mushroom.
- Mycorrhizae - Boletes, Amanitas, Russulas, Lactarius.  
Some specific relationships are:  
Gyrodon merulioides - ash  
Suillus grevillei - larch  
Suillus americanus, S. pictus, S. granulatus - white pine



## MYCOPHAGY - THE EATING OF FUNGI

Fungi are valued as a food by knowing individuals since they have discovered that the tastes of fungi are frequently unique with no equivalent among other food flavors. They are then most valued as an accessory or condiment, but also contain some nourishment since they are high in minerals, potassium and phosphorus and contain many of the B vitamins.

### Edible vs. Poisonous

What is the golden rule that enables some people to pick and eat wild mushrooms - the golden rule by which they can determine an edible mushroom from a poisonous toadstool?

This is the golden rule - **THERE IS NO GOLDEN RULE!** The only way to distinguish a poisonous mushroom from an edible is to know the mushroom. Just as you know a head of cabbage from a head of lettuce you have to know your mushrooms.

**MYTHS:** A silver coin boiled in water with mushrooms remains shiny if fungus is edible.

Edible if skin can be peeled easily.

Edible if eaten by animals.

All mushrooms growing on wood are edible.

Boiling and discarding water renders them edible.

Doctor can pump stomach if poisoned.

**FACTS:** Amanita are cause of 90% of mushroom deaths.

A single cap can kill.

If symptoms are delayed 6 to 20 hours, hospitalization is mandatory.

**WHEN IN DOUBT, THROW IT OUT!!**

Some people are allergic to specific mushrooms. Mycologists advise:

Never take more than 1 tablespoon of a mushroom you are eating for the first time and never try two new ones at once.

General rules for fresh mushroom cookery: Clean mushrooms without water whenever possible. Use a damp towel and or a knife to remove debris. Do not peel (there is a lot of flavor in the peel). If you must wash them do it quickly and dry them quickly in towels. Cook or dry them as quickly as possible after gathering.

Drying mushrooms for later use in soups, sauces, omlettes, etc. A half pound of mushrooms cut to 1/8" slices will dry in 2 or 3 hrs. in an oven on paper towels on cake racks at 120 °F. To enhance the flavor and fragrance take the drying just beyond the dry stage, and toast the chips. This is achieved when a rich aroma comes from the oven. Turn off the oven and partially open the door, leaving them there for 10 or 15 min. Now pulverize them in a blender, and store in a tightly covered jar.

The dried powder is considered a mycophagist's treasure. It is used to produce background flavor in mushroom soup, sauces, gravies, and omlettes