Wood Waste Makes Wonderful Mushrooms:  A Guide to Collecting For Food
Michigan State University
Cooperative Extension Service
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# Wood Waste Makes Wonderful Mushrooms

## A guide to collecting for food

By Ingrid Bartelli

Cooperative Extension Service
Michigan State University
Michigan Department of Public Health

# Foreword

THERE ARE A GREAT many popular, clearly written and well-illustrated books dealing with mushrooms in the United States and foreign countries. Written by eminently knowledgeable authors, they're fine for the person who has some knowledge of fungi. For the novice, much of the existing literature is completely bewildering. It is the purpose of this publication to present information in a most elementary fashion so the uninitiated student can learn to safely collect for food a few of the more easily recognized species that grow on wood waste, especially that accumulated in old sawmill yards. A learn-them-one-at-a-time, beginning with a known habitat, approach, is taken. Rather than a sketchy description of numerous species, a rather detailed nontechnical description of a selected few of the mill yard inhabiting edible species follows. Reference to many mushrooms other than those described is made by technical name — not to confuse you but to provide a lead to further study in more advanced literature.

It will help you tremendously if you learn to identify the trees growing in your collecting area.

No literature is completely meaningful until descriptions are related to a living plant in its natural habitat. Even then, confidence comes only when a knowledgeable authority confirms your identification. This pamphlet may help you recognize a few edible species and hopefully encourage further study of this fascinating group of plants.

The ultimate decision whether or not to eat a mushroom is yours. Michigan State University, the Michigan Department of Public Health, and the author of this publication assume no responsibility for the safety and well-being of any mushroom collector.

# Contents



## ACKNOWLEDGEMENT

I am deeply grateful to the Cooperative Extension Service of Michigan State University for publishing the pamphlets I've been privileged to compile. Without the infinite wisdom and counsel provided to me by Dr. Alexander Smith, Professor Emeritus, University of Michigan, and Dr. Joseph Ammirati, Erindale College, University of Toronto, this publication would not have been attempted. Most of the colored illustrations are from slides generously provided by Dr. Smith.

INGRID BARTELLI

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# Mushroomer's Garden of Eden

IF THERE IS A GARDEN OF EDEN for mushrooms, it will be found in an abandoned sawmill yard. Fires are a common occurrence at sawmills and increase the variety of mushrooms to be found. Rich with top soil and bark debris, the decking and wood yards that are adjacent to the mill begin to produce before the raw sawdust piles themselves.

As it ages and, if left undisturbed, the mill yard will begin to support a dense growth of big weeds, grass and eventually tree seedlings. Even then a mushroom flora will persist.

Too often the abandoned mill sites, which are located around the perimeter of a town, become the site for an industrial park or some high-rise apartment as a town grows.

Should you be fortunate enough to know the location of a mill yard at the site of a deserted ghost town, you'll have only the deer, bear and rodents as competitors. If this be the case, follow the deer trails; they'll lead you directly to the best patches. Just hope they didn't get there first. A railroad spur could lead you to a mill yard.

What you can expect to find depends on the age of the yard, the types of trees that were cut into lumber and whether or not there was a fire. Some mills made it a habit to burn the slab piles. This made a superb habitat for those species that thrive on carbon waste, like morels in the spring.

There are several reasons why a mill yard makes such an excellent collecting area. The yard itself is a large open area. When undisturbed and when the wood waste decomposes, the yard grows up into grass and weeds, making a suitable habitat for the mushrooms that ordinarily grow in open grassy places.

The yard and adjacent area is laden with a concentration of "wood" with nutrients readily available in the pulverized sawdust, bark or chips — a tremendous banquet table for all the wood-inhabiting fungi.

Because they have abundant food, mill yard mushrooms grow to be much larger than their counterparts in other habitats. They also grow more profusely. For example, a piece of decayed wood in a

forested area might support a few clusters of *Collybia dryophila* with a dozen mushrooms in each cluster. In an old bed of sawdust you're apt to find solid masses of *C. dryophila* containing thousands of fruiting bodies. The same phenomenon holds true for all the species of mushrooms found in a mill yard. You may find solid carpets of fruiting bodies.

Some mushrooms grow in ever-widening circles or arcs (fairy rings, they are called) rather than singly, in patches or in clusters. *Lepista nuda* is an example. Rather than a few widely spaced *Lepista* making the usual ring or arc as you'd find it in ordinary circumstances, the ring, 15 to 30 feet in diameter, will be a foot wide, made up of a solid mass of fruiting bodies.

One thing I've observed through the years of prowling in old mill yards, there seems to be an unusually large ratio of aborted mushrooms. *C. dryophila* will grow fused together in a solid mass with no normal fruiting bodies. The gills of *Lepista nuda* become wrinkled and fused to look more like veins than gills.

There's a lot of good eating to be obtained on the mushrooms found on wood waste. (Now don't let the lists of names throw you. We'll take them one species at a time till we master them.) *Lyophyllum decastes* is most sought after but you can also find edible species of *Lepista*, *Pluteus*, *Coprinus*, *Lycoperdon*, *Naematoloma* and *Lepiota* among those regarded as edible.

There are hundreds of other non-edibles, so again we're going to be selective in our collecting. The first one we'll learn to collect is the "grassy."

# The Grassy

## *Lyophyllum decastes*

*LYOPHYLLUM DECASTES* is the real name. Though most often called the "grassy," it is also called the Italian mushroom or the Polish mushroom, indicating its preference among those ethnic groups. In older technical literature this mushroom may be described as *Clitocybe multiceps* or *Lyophyllum aggregatum* with such popular names as the fried chicken mushroom and the many-headed or many-capped *Clitocybe*.

## WHAT TO LOOK FOR

*L. decastes* grows on the ground in huge clumps or clusters. In old, undisturbed mill yards where there is ample food there may be 50 to 100 caps in one cluster. When you separate it from the duff in which it grows, it's a firm, clean-looking clump of mushrooms.

The color of the caps is a tan or dull brown when it first emerges from the soil. The small buttons look like dozens of small, dark tan marbles fused together in a solid mass. As the mushroom grows, the cap color changes to a pale tan to creamy white. The caps grow to be 1 to 4 inches in diameter.

The caps are rounded at first, then almost flat, frequently with wavy or uneven margins. They are smooth and moist-feeling though they appear to be dry. The flesh of the cap is firm and white with only a faint, pleasant mushroom odor.

The gills under the cap are clean and white. They may be squarely attached to the stalk or run down the stalk for a short distance.

The color of spores in deposit on a spore print is *white* — an important character to remember.

The stalk is clean, silky white, swollen at the base at first, then lengthening from 2 to 5 inches, becoming equal in width and sometimes even narrower at the base due to the crowded manner of growth. There is no veil, so no ring on the stalk.

It is not uncommon to find stalks that have branched to hold two caps. The stalks are firm and solid. The whole mushroom gives the impression of firmness and strength as this multitude of tiny, fused buttons force their way through dense vegetation so the caps can expand enough to shed their spores.

## WHEN AND WHERE TO LOOK

In the Upper Peninsula of Michigan, *L. decastes* has two fruiting seasons. The first is about mid-June if it is warm and there is sufficient rainfall. The second fruiting occurs in the early fall, usually in September, again after heavy rainfall.

You're most apt to find *L. decastes* by stepping on it. It is usually covered with dense grass or weeds. When you're wading through shoulder high weeds in an old mill yard and step on a bushel basket size mound of grass or weeds, only to fall through it, you're likely to be standing boot-top deep in a cluster of *L. decastes*.

If you're searching in a mill yard for the first time, look for the places where the grass is the greenest and deepest or where the weeds are the tallest and thickest. Then separate the vegetative growth till you find the level of the soil and you'll likely find *L. decastes*. They seem to prefer grassy places but I've also found tremendous fruitings under goldenrod, tansy, burdock and bull thistles. Sometimes if the rainfall has been ample, they will grow in comparatively weed-free, rich humus, in which case the buttons and caps will be darker in color than those growing under dense vegetation.

*L. decastes* grows in places other than mill yards if the soil is rich in decayed humus — along roadways, around haystacks or undisturbed areas of barnyards.

***Lyophyllum decastes*** - edible

Look for clumps of the popular grassy mushroom where the grass and weeds are the deepest and greenest.

## BE VERY SURE!

Remember, *L. decastes* grows in large clusters with dozens of caps in each clump. There is a similar but much smaller *Clitocybe dealbata* that grows singly, usually on lawns, that is poisonous. Never pick single specimens or even those with 3 or 4 in a group, thinking they might be *L. decastes*.

Be sure the spore fall (and gills) are white. There are poisonous species of *Entoloma* that are about the same size and similar in stature. But *Entoloma* species have a pink spore fall and most often grow singly or rarely in clusters of 2 or 3 fruiting bodies.

Use your nose. I have observed a similar clustered mushroom growing in the same mill yards at the same time as *L. decastes*. The coloration of this mushroom (I do not know its name) is gray-tinged rather than brown- or tan-shaded. It may or may not be edible, I don't know, but it has a horrible, sour and rancid smell.

I have also observed heavy fruitings of a mushroom similar in growth and appearance to *L. decastes* that grows in pure stands of jack pine in the fall. Again, I know not its identity nor whether it is edible.

Your best bet will be to search in old mill yards or decking yards for *L. decastes*.

## PRESERVE SOME

*L. decastes* is the preferred and only mushroom collected by some of our Upper Peninsula natives for fresh eating and preservation. The flavor is mild and not distinctive. Canning is the preferred method of preservation or freezing after it has been cooked.

Be careful when you gather this mushroom for food. When you dislodge the clump from the soil, you're tempted to turn it upside down. When you do this all the duff clinging to the root system falls into the gills, and it's hard to get them clean. If you bring the whole clump home, keep it upright. You can also ease the cleaning job by removing the grass and weeds from the top of the cluster before you remove it from the soil.

*L. decastes* is the food biggie of the mill yards.

# Inky Caps — The Coprinus group

INKY CAPS GROW in places other than old mill yard sites but not in as great profusion. The shaggy mane is the best known of the three major edible species of inky caps; namely, *Coprinus comatus*, *C. atramentarius* and *C. micaceus*. Yes, you've guessed correctly. *Coprinus* is the generic name for inky caps.

The name, inky cap, is an apt one, since mushrooms of this group turn into a drippy, black, inky mess when they mature. Knowing this fact, the first clue for the collector after learning to identify the mushroom, is to pick it at very early stages of growth before it begins to turn to liquid. Even when you pick buttons you must cook them immediately before they begin to darken and self-digest.

The *Coprinus* group of mushrooms lives on rich humus and ordinarily grows in clusters or dense patches. The cap is very thin at the center where it sits on top of a hollow stalk. The gills are free or only slightly attached to the stalk.

The inky caps are unique mushrooms. Most gilled mushrooms have cushion-shaped to flattened caps with gills that radiate out from the stalk. In addition, the gills are spaced apart from each other, and the edges point toward the ground so spores can fall free as they ripen. Not so with inky caps, which resemble a closed umbrella. The many gills are closely packed and held folded in close to the stalk by the umbrella-like cap. With the gills in this position there is no way the spores can fall to the ground when they ripen. So this brilliant plant devised a method of changing itself to liquid to make it possible for the ripe spores to fall free of the gills. The spores on the gills ripen first near the lower margin of the cap and then progressively up along the gills to the stalk.

The ripe spores of *Coprinus* are black or nearly so. The margin of the cap begins to discolor, first to pink, then to black, as the spores ripen. The cap will expand just a little — enough so the spores on the outside margin can fall. Then that part (the edge of the cap and gills) that has shed its spores turns to "ink." This makes way for the newly exposed parts of the gills to shed spores in a like manner until all that is left is the stalk with a few drippy inky ribs left clinging to it — the total remains of the cap and gills.

## *Coprinus comatus* (Shaggy Mane)

The strength displayed by this plant is unbelievable as it pushes up out of the soil to shed its spores. In one old mill yard, where *C. comatus* was well established, a cement block foundation was erected and the adjacent area covered with black top. At one point against the wall, shaggy manes pushed through, lifting and dislodging a piece of black top about 1 to 2 inches thick and 10 to 12 inches in diameter.

## WHAT DOES IT LOOK LIKE?

Once you've identified the shaggy mane you'll have no trouble recognizing it a second time. It is a tall, narrow, basically white mushroom. It grows singly, in dense patches or in clusters if the soil is rich in organic matter.

Try to visualize a shape similar to a hen's egg, the same width, about 2 inches, but stretched to stand 4 to 6 inches tall to resemble a bullet. That is the approximate shape of the cap of *C. comatus* as it pushes up through the soil. The very young buttons are covered with a grayish-brown skin that breaks to form large scale-like masses as the cap grows larger. The scales look like ruffled feathers. The cap color beneath the dingy scales is white.

*Coprinus comatus* - edible

For food, use only the young buttons in which there has been no color change. Mature caps disintegrate into an inky fluid.

When the cap pushes up far enough so the stalk is visible, you can see that the margin of the barrel-shaped cap is snuggled tight against the stalk and held there by a membrane which remains as a ring about midway or lower on the stalk. The stalk grows to be 6 to 8 inches long. It is white, silky, equal in width, narrow (about ½ inch wide) and hollow. In the button stages, when the stalk is thicker as compared to total height, the base may be slightly bulbous with a pointed root.

After the mushroom has grown to its full height, the margin of the cap expands a little to give the cap a bell- or skirt-like shape.

When the spores begin to ripen, the broad crowded gills, which are white at first, begin to turn pink but only at the margin of the cap. The pink color turns to black when the spores are ripe. At this time the margin of the cap expands a bit more, turns up slightly (so the spores that are ripe can fall out) and then turns to liquid. This strange phenomenon continues until the full length of the gill has changed color, matured, ripe spores have been shed and the entire cap and gill structure has turned to an inky liquid, leaving only the white stalk standing with a few drippy remnants attached.

There is another visual image that will help you recognize the shaggy mane. We have all seen the high, white-feathered hats worn by drum majors in marching bands. A patch of mature shaggy manes looks like a convention of miniature drum majors.

## WHEN AND WHERE TO FIND IT

*C. comatus* is a fall-fruiting mushroom in northern Michigan, usually in October. It likes black, mucky soil. Along the highways, where the low, wet, mucky soil has been excavated to make a solid road bed, the shaggy mane grows as thick as daisies. Mill yards, rich in humus and organic matter, make an ideal habitat when there is a lot of moisture, as do lawns and golf courses. *C. comatus* will also grow up through unbelievably hard packed soil.

## WHERE DO THEY GO?

The shaggy manes are rated as choice, edible mushrooms. Collect only those buttons in which the gills have not yet turned pink or dark. Scrape the

scurfy surface off the cap, wash and cook immediately before any further ripening or color change takes place. Don't estimate the final cooked product to be the same as the fresh quantity. A button that is 6 inches high by 2 inches wide will measure about 1 inch high by ½ inch wide after it has been cooked. They are practically all water.

Pickling, canning and freezing are preferred methods of preservation.

## *Coprinus atramentarius* (The Gray Inky Cap)

As compared with the white shaggy mane, *Coprinus atramentarius* is a squat, chubby, gray inky cap.

### WHERE TO LOOK

Mill yards rich in wood debris and sawdust are the preferred habitat, since its growth seems to be associated with buried wood and concentrations of organic debris.

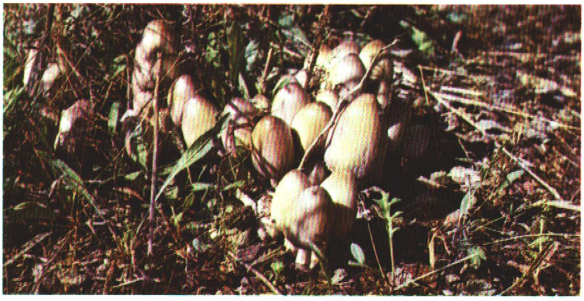
### WHAT TO LOOK FOR

The cap color is a dingy brownish-gray. Sometimes the top center of the cap is slightly rough or scaly. There may also be grooves or ridges radiating from the center of the cap down to the margin as though some pressure had been used to keep the cap wrapped snugly around the stalk.

The almost-round button stage grows to be 1 to 3 inches broad. In early stages the cap and the exposed base of the stubby stalk, below the area where the margin of the cap is tight against it, is coated with sheer, silvery gray or brownish, silky fibers radiating from the top of the cap down over the stalk.

The margin of the cap is usually uneven or wavy. As it expands, exposing the white stalk underneath the cap, a distinct irregular zone (not a ring or annulus) is evident near the base. It is formed by the color difference between the white stalk and the base covered by the same gray-brown fibers as cover the cap.

The gills under the cap are pale gray at first. They expand, darken and turn to "ink" in the same manner as the shaggy mane.



*Coprinus atramentarius* (smooth form) - edible

Only when consumed along with an alcoholic beverage does this mushroom prove disastrous.

*Coprinus atramentarius* (scaly form) - edible

The scaly form is unattractive and hard to clean, but young buttons are edible, nevertheless. Do not consume alcohol when eating this mushroom.

The hollow stalk grows to be 2 to 6 inches long, about ½ to 1 inch thick, equal in width unless growing in a very dense cluster when the base may be narrower. The color is silky white above the basal zone and similar to the gray-brown cap color at base of stalk. It grows in dense clusters.

## WHEN TO LOOK

The heaviest fruitings occur in the fall — September and October — when there is ample moisture and cool weather. Occasionally there will be lighter fruitings in June if there is sufficient rainfall.

Because of the dingy lead-gray color, its manner of melting into an inky fluid and the fact that much of the organic duff in which it grows clings to the mushroom, *C. atramentarius* really doesn't look very clean or appetizing. Only the very young buttons are suitable for food. They must be cleaned and cooked immediately after harvest.

Some folks experience an unusual exhilaration when drinking alcohol at the same time they eat *C. atramentarius*. Once at a well-attended mushroom lecture, a woman and her husband testified to having experienced the effect of eating *C. atramentarius* when drinking alcohol. Prolonged exhilaration and intense facial coloration were two of the initial symptoms. When I asked that she document her experience and send the information to a poison center because that was the only way a mushroom gained its reputation as edible or not, she replied, "And have everyone know I make home brew? I should say not!" Don't eat *C. atramentarius* with alcohol or follow the meal with alcohol. The initial symptoms are usually followed by nausea and vomiting.

## *Coprinus micaceus* (*The Shiny Inky Cap*)

*Coprinus micaceus*, a small, tan, inky cap that grows in dense clusters, is popularly called the shiny inky cap because at very young stages the tiny granules scattered over the cap surfaces are said to shine like mica.

### WHEN AND WHERE TO LOOK

*C. micaceus* grows on old, decayed wood, which makes a sawmill yard a particularly good habitat. It is also common on most stump remains, occurring frequently on well-watered lawns where a tree has been removed. It fruits in the spring and fall during periods of cool wet weather.

### WHAT TO LOOK FOR

*C. micaceus* grows in dense clusters with as many as a hundred caps in one bunch.

The cap is small, ½ to 2 inches wide and deep. It is pressed tightly against the stalk in button stages and expands as the spores ripen and are discharged, followed by a progressive turning to liquid, beginning at the margin of the cap and progressing toward the center.

*Coprinus micaceus* - edible

Though the caps are small, it is not difficult to gather sufficient quantity for a meal.

The cap is apt to have longitudinal wrinkles with many fine lines around the margin. The color is tan or pale brown, deeper-colored on the disc, fading to lighter near the margin. The minute, shiny particles are remnants of a fragile tissue covering the young buttons.

The stalk is silky white, 1 to 3 inches long, equal in width and hollow at maturity.

### COOK THEM IF YOU FIND ENOUGH

The flavor of the mica cap is mild and pleasant. It is a tender mushroom that cooks quickly. Use only those buttons with white gills. Though small in size, there are usually so many caps in a cluster that it is possible to gather enough for a meal.

## There Are More

### TWO WILL DO

IF YOU COLLECT none other than *Lyophyllum decastes* (the grassy) and the edible inky caps from your mill yard site, you'll need no other mushrooms if quantity is what you're after. These two species are easily learned and grow in abundance. The beginner would do well to limit his collections to these two species until he feels more secure traveling through the maze of mushrooms in a mill yard.

If it's variety you seek, you'll find that, too, in the mill yard. Some folks are not content until they have tasted all plants known to be edible.

*Lycoperdon pyriforme* - edible

Large masses of several edible puffballs can be found on wood waste.

## THE PUFFBALLS

Near the edges of raw sawdust concentrations, you'll find solid masses of the small, 1 to 3 inch, tan, pear-shaped puffballs, *Lycoperdon pyriforme*. They are attached to white, string-like strands laced through the sawdust.

You'll also find tremendous fruitings of *Lycoperdon perlatum*. This puffball, *L. perlatum*, is larger than *L. pyriforme*, growing to be 3 to 4 inches tall. It is a dingy white or pale cream color, basically pear-shaped with a stout, stalk-like base. This puffball is covered with tiny, short spines or horns that fall off or wash away as the mushroom matures. An opening pore forms at the top of the fruiting body through which the ripe spores escape.

If there is a low, wet spot in the yard, you may find some of the large basketball-size puffballs of the genus *Calvatia*.

## PUFFBALLS ARE EDIBLE

They are edible if you regard a few precautions. (1) Be positive it is a puffball and not the button stage of a gilled mushroom. Always cut a puffball in half lengthwise to make sure there is no outline of cap, gills and stalk. (2) Limit the ones to be eaten to those with pure, white flesh with firm, uniform consistency, much like that of a marshmallow. The flesh of a puffball changes color and texture as it ages.

The white flesh first turns yellow, then dingy green and finally brown.

There is a hard, thick-skinned, round mushroom that looks just like the puffball but the flesh is a deep, smoky blue. It (*Scleroderma*) is not to be eaten.

## *Naematoloma sublateritium*

The brick cap mushroom will be found growing on the ground in large dense clusters if there is enough wood duff to supply the necessary nutrients, and that is a certainty in a sawmill yard. Ordinarily you'd look for *N. sublateritium* on a stump. This brick-colored, clustered mushroom with smoky-brown spores is regarded as edible but occasionally it has a bitter taste that discourages its use as food. (A more detailed description is available in the companion pamphlet called "Mushrooms Grow on Stumps.")

*Naematoloma sublateritium* - edible

The "brick cap" that ordinarily grows on stumps will be found in tremendous profusion in old sawmill yards.

## *Lepista nuda*

Years ago when I was first indoctrinated to hunting mushrooms for food, I was taken to an old mill yard and instructed to, "Look for a blue mushroom." Long since I've learned that there are numerous blue- or purple-tinged mushrooms, many in the genus *Cortinarius*. The blue *Lepista nuda* makes such good eating that it is worth your time to learn to identify it, especially if you are able to collect in a mill yard.

*L. nuda* might be described in your reference books as *Tricholoma personatum*. Its popular name

*Lepista nuda* - edible

The "blewit" is a solid mushroom, excellent for slicing or for stuffing.

includes blewit, a term used in England to mean "blue hat." It is also called the "masked mushroom."

## WHAT TO LOOK FOR

The most important character is the color, which is definitely blue or lavender. *Lepista nuda* is a solid, robust, heavy, short, broad mushroom — the kind you heft in your hand. It grows in a fairy ring or arc if room and food are available. In areas where the sawdust groundcover has decomposed enough to support a mat of hawkweed, I have seen fairy rings of *L. nuda* formed from a foot wide solid mass of fruiting bodies with the ring up to 30 feet in diameter.

In young stages, the entire fruiting body (cap, gills and stalk) is a uniform blue-purple color. As the mushroom matures, a rosy-tan "mask" may cover the violet color on the cap.

The cap is broadly rounded on top with an inrolled margin and deep lilac-blue color when young.

It expands to 2 to 7 inches broad, often with a waved or irregular margin when mature. The cap is smooth and moist-feeling. It has a water-soaked appearance in wet weather.

The gills beneath the cap are lilac when young. As the spores ripen they take on a flesh or buff tinge. The gills are crowded with several tiers of short gills between the entire ones. The gill is attached to the stalk, sometimes squarely but most often with a notch in the gill at point of attachment.

The spore fall is a dingy pink. This instantly causes concern, if you plan to use it for food, because we know there are species of *Entoloma* with a pink spore fall that are deadly poisonous.

The heavy, solid stalk is the same lavender-blue color as the cap and gills. In young buttons it is bulbous at the base, growing to be almost equal in width at maturity — 1 to 2 inches wide and 2 to 4 inches long. There is no ring on the comparatively smooth stalk. When old, it roughens from longitudinal cracks. If a cobweb-like veil is present, you probably have a *Cortinarius* — some of these are poisonous.

When *L. nuda* grows in wide fairy rings, it grows in clumps or clusters. When growing in leaf mold, pine duff, around old hay stacks or compost, it may grow singly.

*L. nuda* fruits in the late fall, October and November in Lake Superior country.

## THEY'RE EDIBLE

Blewits are edible even though the purple-blue color has a poisonous look in the eyes of some collectors. It's a favorite in England. The caps are so large they are usually sliced for preparation. The smaller buttons, when left whole, are suitable for stuffing. The flesh remains firm but tender when cooked. The dingy blue-gray color is not appealing, however.

*L. nuda* can be dried satisfactorily as well as canned or frozen.

## BE VERY SURE

There are several mushrooms which are not edible and might be confused with *L. nuda*.

The pink-spored *Entolomas* are dangerous. They are not as robust as *L. nuda*, and there is no blue or lavender coloration in most *Entoloma* species. Be sure the basic color of your *L. nuda* collections is blue or lavender.

Some species of *Cortinarius* are robust like *L. nuda* with a similar bulbous base but the spore color of *Cortinarius* is definitely brown — not pink. *Cortinarius* buttons always have a cobweb-like veil.

There is another mushroom that grows in sawdust waste very similar in size, shape and growing habits to *L. nuda*. It is more gray than blue and not nearly as solid and heavy. It has a disagreeable, irritating, metallic odor. It is not considered edible.

Watch for *L. nuda* when collecting in mill yards but be certain of its identity before you try eating it.

## *Pluteus cervinus*

The "deer mushroom," so called because of its color, grows directly on rotted wood or on sawdust. It fruits heavily in the fall and sometimes in cool, wet, late springtime. It is considered edible but of inferior quality. I have not been tempted to eat it because of its odor (it smells like a horse stable) and because of its flabby, soppy texture.

*P. cervinus* is an attractive mushroom as its wrinkled cap pushes up through the sawdust. It frequently grows in small clusters of 3 to 5.

The caps expand to 2 to 4 inches broad. The color of *P. cervinus* is variable but most often the caps are covered with a dark brown, silky skin that fades to fawn color as the caps flatten out. The flesh of the cap is thin and soft.

The gills are pink, crowded and not attached to the stalk. The spore fall is pink.

The white, solid stalk grows to be 2 to 6 inches long, ½ to 1 inch thick. It may be faintly streaked with silky fibers.

In my opinion, *P. cervinus* is meant to be admired rather than eaten. If you do choose to eat it, be certain that you do not mistake a tan, pink-spored, poisonous *Entoloma* for the brown, pink-spored *Pluteus*. The gills in *Pluteus* are not attached to the stalk, and it always grows on wood or wood waste. You're more safe just to admire this mushroom rather than eat it until you become a master at identification. Until you are thoroughly familiar with the variable colored *P. cervinus*, do not experiment using it for food.

*Courtesy A. H. Smith*

*Pluteus cervinus* - edible

The "deer" mushroom grows directly on rotting wood or sawdust.

## *Lepiota* (or *Leucoagaricus*)

Some species of *Lepiota* are deadly poisonous, while others, similar in appearance, are considered excellent, edible food.

The *Lepiota* group is dangerous because, in physical appearance, it resembles the *Amanita* group which includes the most deadly poisonous of all mushrooms.

But do learn to recognize the *Lepiotas*. They are regally handsome when compared with the rest of the mushroom population. They are the tall stately models adorned with mink stoles and hats. Some of the larger species line up in big circles or arcs just as though they were performing on stage. They may stand 10 to 14 inches tall with caps that expand to 8 to 12 inches wide. The underlying, white cap surface on most of the large species is hairy or covered with large rosy-tan or brown scales. The gills are free from the stalk, and spore fall is white with one exception — that of poisonous *Chlorophyllum* (*Lepiota*) *molybdites* which has a green-tinged spore fall. The stalks are long, hollow and usually bulbous at the base.

A persistent ring is present on the upper part of the stalk. The absence of a cup or volva at the base of the stalk is one visible character which makes it different from the deadly *Amanitas*. The careless or uninformed collector may pay no attention to the base of the stalk, so could easily confuse the two genera.

*Lepiota rachodes*, *L. procera* and *L. americana* are the large *Lepiotas* considered to be edible. *Chlorophyllum* (*Lepiota*) *molybdites* is definitely poisonous.

*Leucoagaricus naucinus* is a smaller, all-white member of the *Lepiota* group which is not usually poisonous; but, because of its close resemblance to the angel of death of the *Amanita* group, it should be strictly avoided by the amateur. There have been a few reports of mild discomfort from eating *L. naucinus*.

The large scaly *Lepiotas* (*procera*, *rachodes* and *americana*) are sometimes called the parasol mushrooms. Even those collectors who are sure of their identification and have collected and eaten the white-spored (never the green-spored) species get a scare, particularly if they eat *Lepiota americana* buttons. Just as when one consumes beets in quanti-

ty, a red dye present in *L. americana* turns urine waste red in color — your kidneys or bladder are not hemorrhaging!

*Lepiotas* abound in mill yards, particularly around the fringes. Admire their stately beauty but experiment with their culinary properties only after you become an expert.

There are many, many additional mushrooms that grow in mill yards — carpets of coral-like structures or fragile, tiny mushrooms. You might find some huge, black-gilled mushrooms with a beautifully formed annulus on the stalk — *Stropharia rugosoannulata*. They're all to be admired and studied until you become more expert at identification and until those who are expert can agree on their edibility.

A Deadly Poisonous Mushroom that Grows on Wood Waste.

*Courtesy A. H. Smith*

*Galerina autumnalis* - poisonous

Poisonous as well as edible mushrooms abound in mill yards. Poisonous *Galerina autumnalis* grows in great profusion. Refer to Bulletin E-924, "Mushrooms Grow on Stumps", for details.

# Be Cautious — First, Last and Always

THERE ARE REASONS WHY you must be particularly cautious when collecting mushrooms that grow on wood waste for food.

Be cautious because there is such a bewildering array of mushrooms that grow on wood waste. The species may vary between adjacent sawmill yards because of the age of the wood waste, the type of trees from which the waste originated, the presence or absence of carbon waste from a fire or other factors, such as additional vegetation, water supply, soil type, etc.

Be cautious when identifying a species. Those that grow on wood waste often are much more robust and grow more profusely than when they grow in typical manner in their usual habitat. This applies to poisonous species such as *Galerina autumnalis* as well as to edible species.

## Be Certain of Spore Color

To make a spore print, you will need a mature mushroom and a piece of white (always use white) paper. In case of a gilled mushroom, cut the cap off the stalk and set the cap on the paper with the gills down—the same direction as they are when the mushroom is growing. It will help to place a bowl over the whole thing so the cap and gills do not dry out and the spores are not disturbed as they fall on the paper. A wrap of wax paper works well if you're working in the field. After a period of time (say, overnight) lift the cap off the paper and observe the *color* of the mass of spores that fell.

Be very cautious, of your physical safety. Some sawmill yards become junk yards. Never climb on piles of raw sawdust lest you break through and drop into a hole caused by smoldering spontaneous combustion. You can get burned or smothered.

Your safest approach to mill yard collecting, when mushrooms are to be used for food, is to be critically selective. Know positively the identity of the species you seek; collect it and none other.

But should you have the desire to wade in mushrooms up to your knees, your Garden of Eden is most apt to be found in a sawmill yard.

# Should The Uninitiated Collect Wild Mushrooms For Food?

1. Not unless you are willing to study until you learn the positive identification of the mushroom you seek and become selective in your collecting.

2. Not unless you assume the responsibility of your own safety and well being. Are you properly dressed? Do you know how to use the compass you carry? Have you overcome any foolish fears you might have had of the "woods" and the creatures that live in it?

3. Not unless you are a responsible citizen who respects no trespass, private property, no littering and posted land signs.

4. And certainly not unless you have the same respect for every living plant, bird or animal that shares the mushroom hunting area, as you do for yourself as a person.

5. Then, not unless you are absolutely certain the mushroom is safe to eat. Collect carefully. (A shallow flat box or basket is best — never use plastic.) Promptly clean, refrigerate, cook or preserve your collections upon returning home. Unless you intend to use the mushrooms, don't pick them.

6. Finally, not unless you guard against becoming an "instant" expert, thereby, endangering the lives of folks you choose to advise.

*Wood Waste Makes Wonderful Mushroom Collecting* is the third in a series of booklets designed to help the beginner appreciate wild mushrooms as a safe source of food. This booklet deals with species that grow on wood waste, specifically old sawmill and wood decking yards.

*May Is Morel Month In Michigan*, Extension Bulletin E-614, is the first in the series. (25 cents)

*Mushrooms Grow On Stumps*, Extension Bulletin E-924, is the second in the series. (75 cents)

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