

May is Morel Month In Michigan



Identifying morels for food



Cooperative Extension Service
Michigan State University

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INGRID BARTELLI

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THIS MANUAL IS WRITTEN to help insure the safe collection of morel mushrooms for food. It is written for all collectors, whether beginners or professionals. It also sets forth certain rules of citizenship and woodsmanship expected of those who collect mushrooms.

An estimated 2,000 different kinds of mushrooms (fleshy fungi) grow in Michigan. Though a few dozen are edible and an equal number are poisonous, most mushrooms are not important as foodstuff, so it becomes impractical to try to learn them all.

Yet, if you can *positively* identify just one edible kind, and if you are aware of similar appearing kinds fruiting at the same time which might be inedible or even poisonous, then you can collect safely.

This manual is furnished to help enlighten those curious enough to begin learning about mushrooms and to help "food" collectors get started in one of the safer groups. It cannot do the work of learning for you. It is the user's responsibility to make his own decisions. Neither the author nor Michigan State University assumes responsibility for the safety and well-being of any collector. You must teach yourself!

Is Mushroom-Hunting for You?

It takes more than a basketful of mushrooms, positively identified as edible, to make collecting safe and enjoyable. The collector must possess a sense of propriety and good citizenship in relation to others. These "others" may be most unhappy unless collectors have an honest regard for both private and public property and "no-litter" regulations.

And more important, when a collector invades nature's wonderland, he must move with due re-

spect for the privacy of wildlife and plants that abound there.

Morels fruit in the springtime when the first wild flowers bloom. Most wild flowers are on the "protected" list — not to be picked.

Birds are nesting. We may flush a grouse, a timid thrush, or a pheasant or bobwhite off its nest. When a woodcock spirals into the air in front of us, we must search the ground before taking another step for fear of treading on the four motionless young timberdoodles that have already hatched.

The sun-dappled rock, upon closer inspection, may turn out to be a newborn fawn.

Collectors must abide by certain rules of woodsmanship as each assumes responsibility for his own safety.

1. Be sure there's gasoline in the tank for the return trip.
2. Dress for the occasion and the weather.
3. Pack some food and water. (Don't drink from lakes or streams — they may be contaminated.)
4. Avoid poison ivy and other pest plants, and be prepared for insects.
5. Know the terrain. Use a map and compass.
6. Keep track of time. Allow as much time to get out of the woods as to get in.

What Is a Morel?

Morels, both the "true" and the "false," resemble other mushrooms by the fact that we see only part of the plant above the ground. What we see — the mushroom we want to collect — is the fruit of the plant. It is to the whole plant as the apple is to the apple tree. The plant is in the soil, stumps, leaf mold, or piles of straw.

Mushrooms contain no chlorophyll as do ordinary green plants. They are dependent upon an existing food supply and will continue to live in their present location as long as the food supply lasts, "other conditions" being favorable. Though we are not certain what all the "other conditions" are, we do know that ample moisture is necessary.

Mushrooms are "fussy" about their food. Morels are no exception. If we know what their food source is, we know where to hunt for them. Veteran collectors have given us such clues as these:

"Look first for a stand of aspen," "in young second growth hardwood," "near spruce stumps," "in old orchards," "near a dead or dying elm," "in the charred ash of last year's forest fire," "in a stand of ash trees," "wherever bracken fern grows," "follow the ravines."

As a mushroom plant grows, the part that we want to gather begins to emerge. This is the "fruiting body" of the plant. It contains the mushroom "seeds" which are called "spores." Each fruiting body produces thousands of spores that are spread by wind, water, insects, and animals to start a new generation. We can sometimes see the microscopic spores when thousands of them fall on one spot appearing like fine cream-colored dust.

Kinds of Mushroom Plants

Plant scientists separate mushrooms into groups according to the way the spores are produced. Morel spores are produced in a pod-like structure, which is called an *ascus*. The pods stand on end and are packed together in the pits and along the ridges of the mushroom cap. Because of the *ascus*, morels are classified as *Ascomycetes* by plant scientists.

Other mushrooms produce spores on a thumb-like structure known as a *basidium*. This large group of mushrooms is called *Basidiomycetes*. We are not concerned with this group of mushrooms in this manual.

In the descriptions on pages 8 to 17, you will see several botanical names of morel plants. These names are in Latin. They consist of a family name (*genus*) and a specific (*species*) name.

Morchella is the family name of the true morels. There are several members, or *species*, of the *Morchella* family. Some of them are called *angusticeps*, *esculenta*, *deliciosa*, *crassipes*, and *hybrida*. When referring to mushrooms in these terms, the capitalized family name comes first,

followed by the uncapitalized species: for example, *Morchella angusticeps*.

Collectors should learn the Latin names which have specific meaning rather than the common nicknames for morels such as spongie, blackie, whities, springoli, the tan one, or spring mushroom.

False morels have the family names of *Verpa* and *Helvella*. With their specific names, the false morels *Helvella esculenta*, *Helvella gigas*, and *Helvella infula* have such nicknames as bull nose, elephant ears, brains, saddle mushroom, liver mushroom, and beef steak.

It is important to learn the proper names of undesirable species to avoid, as well as the name of the mushroom you are collecting for food.

Details on the differences between the true and false morels are given on pages 6 and 7.

May Is Morel Month in Michigan

Mushrooms have a definite fruiting season, as all plants do. Some fruit for only a short while, others in the spring and fall. Some fruit whenever the weather is right.

In Michigan, morels fruit most heavily in May, rarely in late April or early June. *Morchella angusticeps* is the first to appear, followed in order by the species *esculenta*, *deliciosa*, and *crassipes*.

The false morels, *Helvella gigas* and *Verpa bohemica*, fruit soon after the snow melts, *Helvella esculenta* in mid-May, and *Helvella infula* all summer long.

True morels

Though they vary in size and color, each true morel (*Morchella esculenta*, *Morchella angusticeps*, and *Morchella crassipes*) has a hollow, more or less cone-shaped head connected at the base to the hollow neck. There is no break between the head and neck. (See the drawing on page 6.)

The one exception (and there always has to be at least one) is *Morchella hybrida*. The upper two-thirds of its head and the neck or stalk run together, with the lower third hanging loose over the stalk. *Morchella hybrida* is not pictured in

this booklet. Though considered edible, the head is small in proportion to the long neck. Since the head is the portion worth eating, it is unlikely that it can be collected in significant amounts.

The second distinguishing characteristic of true morels is the pitted surface of the head. Some species have ridges, and there is a difference in the size and shape of the pits and the membranes that separate them, but *all species of Morchella have pitted heads*.

The basic shape is similar to a miniature sheared Christmas tree with a substantial trunk at the base. You can be fairly certain you have discovered a morel when you find a cone-shaped mushroom growing from the soil through the leaf mat. It will most likely be two to six inches high, in creamy tan or shades of brown or black, with a pitted head and hollow interior.

False morels

Verpa and *Helvella* both have a cap attached to the top of the stalk. (See page 7.) The cap may flare out at the bottom like a bell or A-line skirt as it does in *Verpa bohemica*. Or it may be puffed out and billowy with the bottom margin rolled in as in *Helvella esculenta*. Or it can resemble a saddle as in *Helvella infula*. But in every instance the cap is attached only at the top of the stalk, with the rest of it hanging free.

The caps of *Verpa* and *Helvella* species may be fairly smooth, exceedingly wrinkled, puffed out, ridged or folded. Remember, the *Morchella* cap is pitted.

Species characteristics

Now that we have learned the general characteristics of the morel type mushrooms, we are ready to learn to identify the individual species.

Though there is considerable variation within a species, it shouldn't be too difficult to match your find with one of the descriptions and pictures which follow. Not all, but the most common types, have been included.

STRUCTURE OF A TRUE MOREL
MORCHELLA ESCULENTA

Light colored
ridges between pits

Light colored
stalk

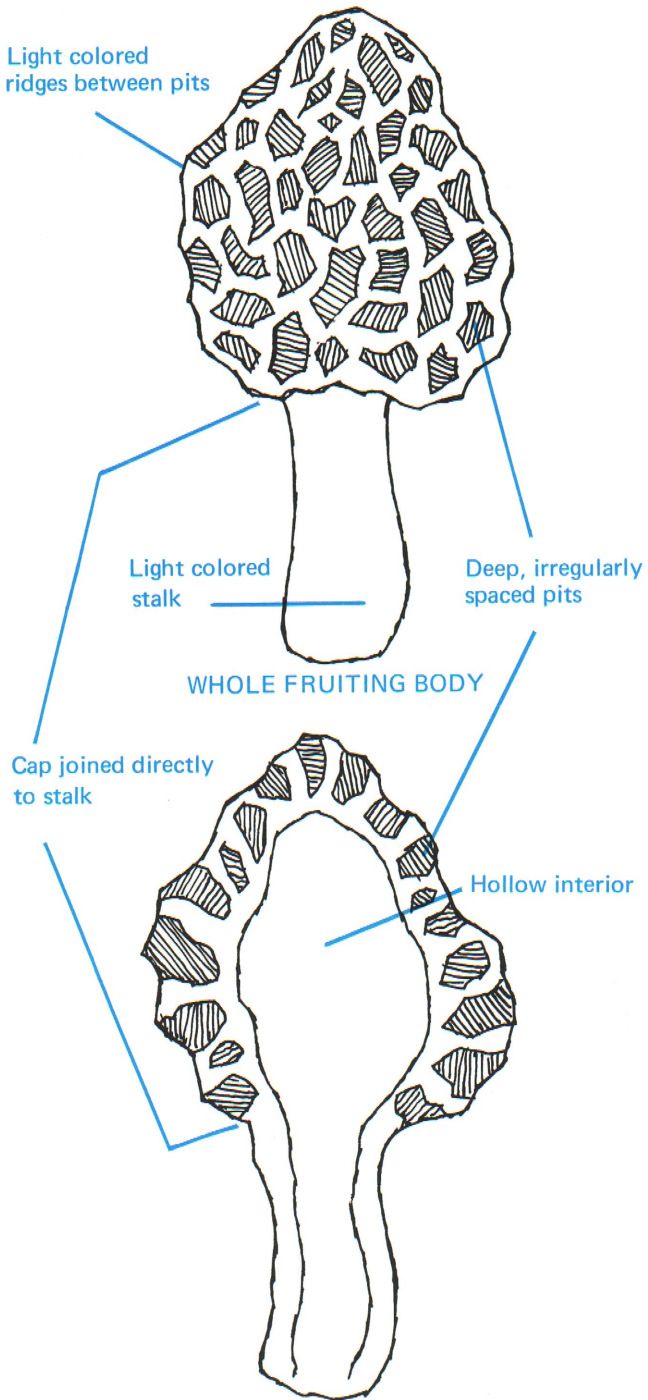
Deep, irregularly
spaced pits

WHOLE FRUITING BODY

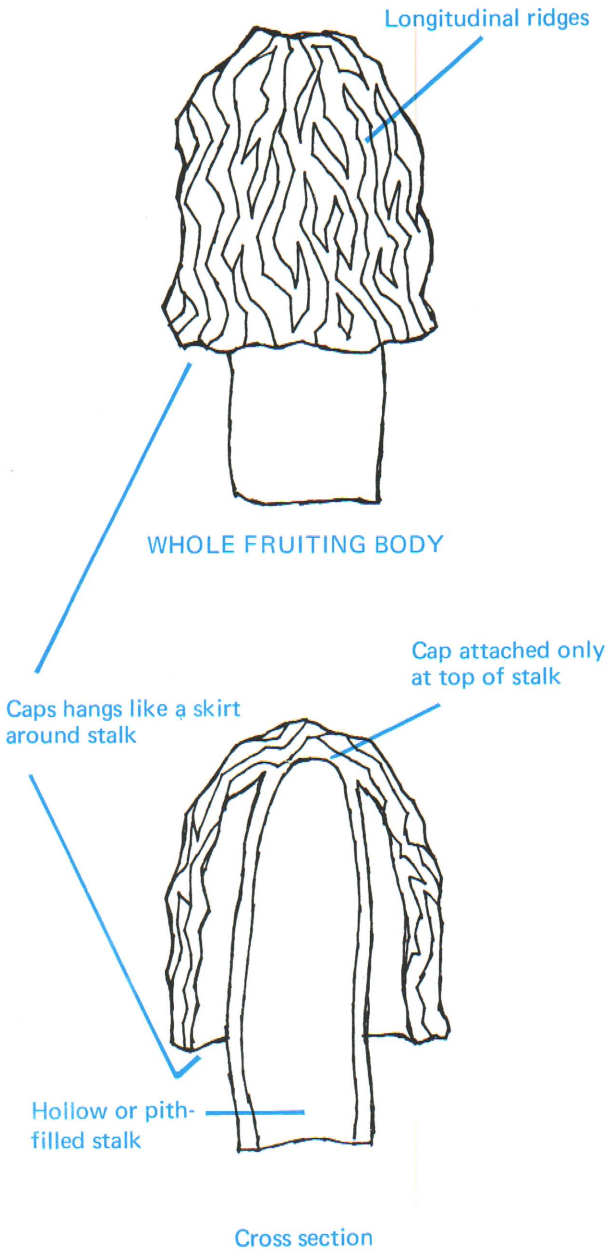
Cap joined directly
to stalk

Hollow interior

Cross section



STRUCTURE OF A FALSE MOREL
VERPA BOHEMICA



Morchella esculenta

Excellent for eating

Look For: a pale colored tan or gray mushroom, 3 to 5 in. high, often called the "white morel" because the gray edges of partitions between the pits turn lighter to almost white with age. Head and stem run together and are completely hollow; chubby, roundish, cone-shaped head; deep, irregularly spaced pits on head; resembles a sponge; fragile partitions often ragged in older plants; stalk smooth and light colored, one-third as high as head; orange-cinnamon stains often appear when plant is old.

When to Look: mid to late May when apple trees are in blossom and oak leaves are as big as squirrels' ears.

Where to Look: in moist, rich earth; along a stream or lake shore; in stands of ash trees; along roots of dead or dying elm; apple orchards.

NOTE: Not as abundant in the Upper Peninsula as in Lower Michigan where it is the "biggest producer."

Morchella angusticeps

Excellent for eating

Look For: a slender morel, 2 to 4 in. high; often called the "black" morel because long ridges on head turn from pale tan to almost black as the mushroom ages; pits on cap are longer than wide, forming up-and-down ridges; partitions firm and substantial; pointed head and stalk run together and are hollow.

When to Look: early May; appears before aspen leaves are out and bracken fern, still curled like a fiddlehead, is just emerging; when early blooming service berry is just beginning to show the white of its bloom; when first asparagus spears are up; when hepatica, arbutus and white violets are in bloom.

Where to Look: in aspen stands of central and northern Michigan; in apple orchards and along roadsides or power lines; in mixed stands of aspen, maple and birch along Lake Superior.

NOTE: Most common and choice morel of the northern Lower and Upper Peninsulas.



Morchella esculenta
Excellent for eating



Morchella angusticeps
Excellent for eating

NOTE: The two specimens at the left in the lower picture are too old to be suitable for eating.

Morchella angusticeps (dark variety)

Excellent for eating

Look For: a very dark mushroom; unlike the common variety, it is black from the time it emerges until it dies; it is higher, 2 to 6 in., and broader than the common *Morchella angusticeps*.

When to Look: Begins to fruit about a week later than the common *Morchella angusticeps*.

Where to Look: This may be the one that pulp cutters in the Upper Peninsula refer to as "the big black one that grows near spruce stumps"; found often under spruce trees; those in the photograph were found under a power line where spruce had been killed by spraying.

NOTE: After more study, this morel may earn a species classification of its own.

Morchella deliciosa

Excellent for eating

Look For: a morel similar to *Morchella esculenta* but smaller and darker; whitish, rather broad and long ridges separate large dark pits on the compact, egg-shaped, hollow head; stalk is pale colored, hollow and often wider at the base; comparatively rare.

When to Look: This is one of the last morels to appear.

Where to Look: It is most abundant in the lower half of the Lower Peninsula in low, moist forests of white ash, elm, and red maple.



Morchella angusticeps (dark)

Excellent for eating



Morchella deliciosa

Excellent for eating

Morchella crassipes

Choice for eating

Look For: a giant morel, 6 to 8 in. high; large cone-shaped head; large, irregular pits; stalk often thick at base (earning the nickname "club foot"); color similar to *Morchella esculenta*.

When to Look: late in May and sometimes early June.

Where to Look: rich soil, warmer climate of southern-most part of Michigan; rare in the Upper Peninsula; in rich, moist stream valley under ash and elm; rich garden soil; orchards; recently found abundantly fruiting along roots of elms destroyed by Dutch elm disease.

This may be the morel which the commercial fishermen harvest from their boats. It grows among the rocks at the water's edge on islands in Lake Michigan. It looks like a big blob of foam, according to their reports. Collectors near the southern Michigan border speak of "a tan-colored mushroom which grows a foot high!"

Helvella gigas

Good for eating

Look For: a heavy, solid mushroom as broad as it is tall, 4 to 8 in. high; stalk resembles a potato that fell apart after being cut up for "shoestrings" and then grew back together; big, bulky stalk full of cavities and light in color; covered with light tan, wrinkled or folded cap which snuggles around the stalk as if to help hold it together; sometimes called "bull nose," which it resembles when first emerging.

When to Look: as soon as snow begins to melt; collected in quantity on opening day of trout season in the Upper Peninsula.

Where to Look: near edge of puddles or melting snowbanks; in mixed conifer and hardwood stands.



Morchella crassipes
Choice for eating



Helvella gigas
Good for eating

Verpa bohemica

Questionable for eating

Look For: a tan to light brown mushroom with a cap hanging free like a bell around the stalk with attachment at top of stalk; cap has wrinkled longitudinal ridges, but is not pitted; stalk partially filled with cottony substance.

When to Look: early May or late April, same time as *Morchella angusticeps*.

Where to Look: along edges of swamps; in areas wet from spring drainage; under cottonwood and balsam poplar.

CAUTION: Some claim to eat this mushroom with no ill effects. Others get violent stomach cramps, and some suffer definite lack of muscular coordination for several hours.

Helvella esculenta

Questionable and unsafe for eating — despite its current use, it must be regarded as unsafe.

Look For: a mushroom 2 to 8 in. high; pale grayish tan to deep, dark liver color; treacherous because of great variation in size, color, and surface texture; cap texture varies from smooth to deeply wrinkled to billowy, not pitted; stalk usually hollow, sometimes two are fused together; cap attached at top of stalk; margins of cap usually roll inward.

When to Look: soon after snow melts until mid-May.

Where to Look: all conifer areas of central and northern Michigan; under aspen; on wasteland where scattered pines remain.

CAUTION: poisonous to some, not to others (and one may eat it 99 times without ill effects, and die on the hundredth time). We cannot recommend this mushroom as safe for eating.



Verpa bohemica
Questionable for eating



Helvella esculenta
Questionable and unsafe for eating

Note the wide variation in color, size and surface texture.

Helvella infula

Poisonous

Look For: a solitary mushroom, rarely more than one or two found in the same location; cap attached to top of hollow stalk; cap folded together and spread up at the sides like "angel wings;" saddle-shaped; cap surface is smooth to slightly wrinkled; color from dirty yellow to reddish brown; 2 to 5 in. high.

When to Look: throughout summer and fall; rarely in spring morel season; do not mistake it for a morel fruiting out of season.

Where to Look: on very moist and rotted wood — conifer or hardwood; under protective tree cover.

CAUTION: This mushroom is unsafe for eating.

A trophy collection

This picture illustrates a collection of mushrooms gathered for eating. Notice that, with the exception of the 4 or 5 specimens in the foreground which are so placed to portray a complete fruiting body, all the others have had the lower part of the stalk removed. There is no dirt or duff in the collection. They are all young, fresh, sound, firm specimens.

Although these were picked over a period of 6 hours and transported 50 miles by car, they show no sign of deterioration. That is because they were gathered in a shallow, rigid container and kept in an airy, cool place out of the sun. Do not use plastic bags as containers when collecting.

The next step will be to split each cap lengthwise to inspect for insect damage. Occasionally a millepede will be found using the hollow interior of the cap as his home.

It is not unusual for one person to gather as many as two bushels of *Morchella angusticeps* in one day when the season is good. (Wouldn't it be nice if there were "drying-space-for-rent" somewhere near the collecting areas at a motel, park, or other convenient place?)



Helvella infula
Poisonous



Morchella angusticeps
Excellent for eating

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GUIDELINES FOR SAFE COLLECTING

Mushroom collecting has been called the most dangerous of outdoor sports, bar none. This will not be so if we play by the rules. Whenever we collect mushrooms for food, there are some general rules to follow:

1. Know precisely and positively what you're after.

2. Collect only one species at a time. Just in case you do collect more than one kind, keep each kind separate. Never mix several species in the same basket.

3. Use a flat container for collecting, preferably a box or basket. Be sure the handles are solidly attached. It's distressing to spill a basket of mushrooms.

4. A rigid container will help prevent crushing or breaking of the mushroom while you're collecting. Plastic bags fail to prevent breakage. They also cause the mushroom to sweat and disintegrate rapidly. Bacteria and yeasts can cause great damage in a few hours on a hot day.

5. Only young fresh specimens are suitable for food. After a mushroom matures and begins to deteriorate, its edible qualities likewise deteriorate.

6. Keep your collection as clean as possible. Pick the entire fruiting body so you're positive it's the right kind. Then trim off the lower parts and clean off any duff or dirt before placing the trophy in your basket.

7. Equip your basket with a trimming or cutting knife (in a shield), a pencil and paper in case you wish to make any notes or leave any notes (should you get lost) and some waxpaper to wrap any other item collected to keep it free from the mushrooms you plan to eat. (You're certain to find a pretty stone or unusual stick for an artistic arrangement, or the bird feather you'll wear in your hat.)

8. Keep mushrooms in the shade and as cool and well aired as possible until you get home.

9. Clean, process or cook your mushrooms as soon as possible after you get home. Most mushrooms deteriorate very rapidly after they are picked. To clean, split cap lengthwise to check for spoilage or insect infestation.

And what if we make a mistake?

The biggest problem you will have when collecting mushrooms will not be to find mushrooms. You'll be amazed at the numbers and variety you'll find! The problem will be to sort out from the hundreds you'll see only the one you're collecting for food. A dozen different kinds may grow on the same log, stump or patch of lawn.

It wouldn't be so necessary to tell one mushroom from the next if they were all equally good to eat. But this is not the case! Some will make you sick with such symptoms or combinations of symptoms as cramps, nausea, loss of muscular control, hallucinations, diarrhea or coma. Others are absolutely deadly. The rest rate varying degrees of "edible" or "poisonous."

This makes it absolutely essential before you collect mushrooms for food that you be positive-ly certain of the mushroom you're after. There is no way to tell a poisonous mushroom from an edible one other than knowing the mushroom and its past history as a food item.

Eating mushrooms

The first time you eat a wild mushroom, eat sparingly. You'll want to observe your reaction to it. Always save a few fresh specimens for identification just in case you become ill.

Should you make a mistake and eat a poisonous mushroom, empty your stomach and call a doctor. For the best chance of positive identification of the culprit, have your doctor call the poison center at the University of Michigan, Ann Arbor.

They're a treat to eat

It is a happy experience to walk through the woods in the springtime to search for morels. But the happiest experience comes when we sit down at the table to eat those morels.

They may be sautéed in butter with onions, cooked in a marinade, added to the gravy or meat sauce smothering a steak, chopped or ground in spaghetti sauce or added to meat loaf or just plain scrambled with eggs. Morels are preferred by most mushroom enthusiasts. Since there is much literature published and readily available on mushroom recipes, it is not our intent to repeat them here.

What if we get more than we can eat at one meal?

You should observe certain "cautions" regarding eating mushrooms.

Avoid eating raw mushrooms, even though it has become fashionable to serve raw mushrooms in a salad.

Cook only enough for one meal. There is evidence that when leftover *Helvella* species were warmed over the second day, they have caused severe stomach distress.

These "cautions" may not be true of all mushrooms, but until we have more information it might be wise to avoid raw or warmed over mushrooms.

Morels can be preserved for future use

Morels can be frozen, canned, or dried.

Before freezing, cook them first until they are covered by their own juice. Cool, pack in freezer containers and store at zero degrees Fahrenheit or below.

Can morels in the same manner as any other non-acid vegetable. A pressure canner is advantageous.

It is common practice to dry morels, though the quality of the end product is doubtful with some methods. To string them and drape them in the attic for months is exposing them to dust and insect damage. To spread them on paper or screens for the sun to dry works all right while the sun

shines, but during the night and on dark days the mushrooms wilt and disintegrate rather than dry.

If you plan to dry morels, and it's very simple, spread the cleaned material on trays made of screen. Stack them in a rack with 8 to 10 inches between each tray and devise a protective wall around the sides of the rack.

A heating unit with a control on it so the heat can be regulated to keep the trays warm but not hot can be placed under the shelves. The heat should be constant until the morels are completely dry. Allow space for air to enter at the bottom of the drier and for moist air to get out at the top. A fan hastens the drying process but is not essential.

When drying is complete, place morels in a glass or metal container and seal.

Conclusion

Collecting morels can be a most gratifying and productive outdoor hobby when pursued in a safe manner according to the rules of the game.

But if you are one of those persons who scream at the sight of a woods mouse or panic when you see a snake, who begrudge a mosquito or wood tick a taste of your blood, and feel strange and uncomfortable when out in the woods, then you'll find far more pleasure in a meal of mushrooms purchased in a can from the grocer's shelf.

More probably, as soon as you have mastered the morels, you'll look forward to adding another edible mushroom to your collecting list.

How you can help

Because mushrooms earn their reputations, it will be helpful if you share your collecting experiences with the author of this publication or with Dr. A. H. Smith, Director of Herbarium, University of Michigan, Ann Arbor, Mich.

It is especially important to report any case of distress from eating a mushroom, particularly if you can describe or identify the offending species. Only in this manner can we protect the collectors who will follow after us.

MICHIGAN IS FAMOUS FOR ITS MOREL LANDS

The rich farm land of southern Michigan, and the extensive aspen groves and mixed stands of trees in the northern areas of the state ordinarily abound with morels. Our state and federal governments have provided numerous parks, recreation and public land areas for our use and pleasure.

Mid-May morel festivals are the order of the day in northern communities such as Mesick, Gaylord, Boyne City, Harrison, Grayling, and many others. Guide service and prizes are part of the festivals. Morels vie with coho salmon in attracting traffic jamming crowds to the collecting areas.

In one season, 810 bushels of morels were purchased from residents of the Ontonagon area and stored in the local freezing plant. Ontonagon is near the Porcupine Mountain Wilderness Park area.

People drive across the country to pick morels in Michigan as did the gentleman who called from the State of Washington to find out how the season was progressing. He wanted to arrive at the Brimley Hills in time for the morel season where, on previous occasions, he had found "the best picking in the world." (Brimley is a small community nestled on the south shore of Lake Superior in Chippewa County, west of Sault Ste. Marie.)

Morels are plentiful in Michigan. You, too, can learn to know and enjoy them.