

## Morel Madness in Western North Carolina

by Michael Hopping

Ah, the rites of spring! Mushroom hunters up and down the eastern United States are ridding their baskets of cellophane grass and terminally cute livestock to make room for bags—mesh or paper please—and a harvesting knife. The time has come to begin prospecting for morels. If you are new to this game, or the Southern Appalachians, here's an overview of the wheres, whens, whats, and hows of morel season in Western North Carolina and adjacent areas.

### Where and When

Although morel mushrooms are found across much of North America they don't always follow the same rules from region to region. Out west, many associate with conifers. Here in the east we find most of ours in or on the edge of deciduous woodlands. Look extra-specially closely in woods populated with ash, tulip poplar, or black cherry, also around apple trees. Oaky woods may be less productive. It would be nice if morels preferred well-manicured leaf litter, but my luck is better in areas that are a little trashy with fallen trees and other woody debris.

Morels are a springtime phenomenon, triggered by warming soil temperatures. If you're the type to carry an instant-read thermometer around, you'll likely discover that morels, often Black Morels, first appear when the soil temperature a few inches below the surface has climbed into the low 50s. Yellow Morels may flush a little later, when soil temps are in the upper 50s. The season at any given location could last 2-3 weeks and finishes when soil temps exceed 60 degrees. But we live in a region where soil temperatures vary with elevation and sun exposure. Morel hounds use these factors to extend their personal seasons by a few weeks.

Spring wildflowers are another way to guesstimate morel season. [Bloodroot](#) and [spicebush](#) flowers often precede the morels by a week or so, but not always. Don't wait any longer to get serious. When [tulip poplars](#) are just beginning to leaf out and [trilliums](#) are in bloom, morels are definitely happening. The end of the season is nigh when woods look more green than brown.

Sadly, the Southern Appalachians are not a hotbed of morel activity. Many promising sites produce none. Others yield just a few. Even when morels *are* present they can be hard to spot, especially for beginners. Field guide photos are more about demonstrating features than average presentations in the woods. Set those mental pictures aside. Instead, search the leaf litter for slightly wrong things. Something resembling a half-buried pine cone. A dead leaf that shouldn't be sticking up that way or is colored unlike any of its neighbors. Perhaps it has an unusual olive cast or, later on, a unique take on sandy tan. If a second look reveals a morel, set your basket down beside it—taking care to first look underneath. Morels commonly fruit in small groups. The basket will keep you oriented while scouting the immediate vicinity.

### Our Native Morels

Members of the genus *Morchella*, the true morels, share a few major characteristics that make it fairly easy to distinguish them from other mushrooms. Morels are essentially tubular. They consist of a pale, stippled stalk beneath a variously colored head section covered by distinctive ridges and pits. With one rare exception our morel species are totally hollow. They do not contain pith, cobwebby strands of mycelium, or wads of redundant stalk material.

*Morchella* is divided into three main groups. Two of them, black morels and yellow morels, occur here. In the black morel group some of the ridgetops are, or tend to be, blackened compared to the pits. Imagine someone with a Sharpie and too much time on their hands. Ridgetops in yellow morel species are light colored and stay that way throughout development, though sometimes evolving from whitish-gray to tan by maturity. Pits are often darker than ridgetops, especially in young specimens. Most species in both groups tend to fruit in the same places year after year. Let's begin the cast of characters with the black morel group.

**The Eastern Black Morel, *Morchella angusticeps*** (formerly *M. elata*) is native to the northeastern quadrant of the US, reaching the southern end of its geographic range in the Southern Appalachians. It is unlikely to be found down on the Piedmont but does occur in Tennessee. This prized edible is often the first to appear, typically in deciduous woods or along woodland trails. The mushrooms range from 2.5-18 cm in height, with head sections to 9 cm tall by 6 cm wide. Heads are conical in age, and stalks become both longer and wider. Ridges and pits have a more-or-less vertical orientation. The stalk attaches to the bottom of the head section, but the transition in young specimens occurs in a shallow gutter that disappears by maturity. The odor is strongly of morel.



The **Half-free Morel, *Morchella punctipes*** (formerly *M. semilibera*) is another black morel species at the southern end of its range in Western North Carolina and Tennessee. Fruitings are typically in deciduous woods but can be erratic from year to year. Though edible, this species may have an inferior flavor. Total mushroom height in old specimens can reach 18 cm, most of which is stalk. Heads are smallish, often conical, with vertically oriented ridges and pits. The key feature distinguishing this from the Black Morel is that the stalk and head of a Half-free Morel join partway up inside the head—but not at the very top. A connection at the top would indicate a species of *Verpa*, see below.

The **Yellow Morel**, *Morchella americana* (formerly *M. esculenta* or *M. esculentoides*), is the flagship of the yellow morel group and the most widely distributed true morel in the US. It's only absent or nearly so from the Great Plains, Gulf Coast, and southern Atlantic seaboard. Yellow Morels frequently appear after Black Morels and are equally sought as edibles. They too frequent deciduous woods but



can also associate with white pine in grassy verges. Down in the Piedmont, bottomlands along streams or rivers are excellent places to hunt them. Mushrooms vary in height from 4-22 cm, with head sections in oldsters up to 11 cm tall. Heads are usually potato-shaped rather than conical. Especially in youth they may be light gray with dark pits. At maturity the entire mushroom is normally a shade of tan. Unlike our other morel species, the ridge and pit pattern is relatively busy and randomly oriented, not predominantly vertical. Connection between stalk and head occurs at the base of the head; no junctional gutter is present. The odor is strongly of morel.



**Poplar Morels**, smaller members of the yellow morel group, were previously known as *Morchella deliciosa*. Genetic work has divided ours into two species: *M. diminutiva* and *M. sceptriformis* (formerly *M. virginiana*). Both are primarily northeastern, but they do venture down into the Piedmont and tend to occur in the same sorts of places as Black and Yellow Morels. Taste-wise they are as good. Mushrooms seldom exceed 10 cm in total height and head heights of 5 cm. As with Yellow Morels, young mushrooms may be nearly white with dark pits. They age to

golden tan. Ridges and pits are relatively sparse and vertically oriented. Heads and stalks join similarly to the Yellow Morel. The head section of *M. diminutiva* is typically conical at maturity, while *M. sceptriformis* has a more oval or peanut-shaped head and perhaps a longer stalk. Definite diagnosis requires genetic analysis. Most of us would rather eat them than care. The odor resembles Yellow Morels.

What about **Fire Morels**? Certain species of conifer-associated morels in the western US fruit in great profusion after forest fires. Forays conducted by the Asheville Mushroom Club have failed to demonstrate that phenomenon here. Similar numbers of Yellow Morels have been found in adjacent areas of burned and unburned deciduous woods. However, a normally Western species of fire morel [fruited in Great Smoky Mountains National Park](#) after a fire in 2016. The habitat was a charred stand of Table Mountain Pine, *Pinus pungens*, and rhododendron. [Morchella exuberans](#) (formerly *M. capitata*) is in the black morel group and resembles the Eastern Black Morel except for the fact that, although the head is hollow, the stalk usually isn't. It is characteristically chambered or layered with excess stalk material. Although presumably edible, documentation to that effect seems to be lacking.

What about **Mulch Morels**? Several species of non-native morel, mostly in the black morel group, have been known to appear in freshly mulched landscapes. Again, these are edible at least in theory, but the issue is further complicated by a possibility of toxic contamination. Morels concentrate heavy metals from their environments, in this case woody debris of unknown origin. Other pesticides, dyes, etc. might also be present in that nice new bed of chips. Are you hungry enough to accept such risks? Perhaps not. In any event, mulch morels are a one-and-done phenomenon. They only fruit once.

### Morel Lookalikes

The most serious mistaken identity problem with morels is a vague resemblance to false morels in the genus *Gyromitra*, some of which can be deadly poisonous. Yes, there is a head and a stalk; the head is usually wrinkled, and it's of a different color. The folds might be brain-like, but that's not the same as a morel ridge and pit pattern. Furthermore, the stalks and heads of *Gyromitra* mushrooms are stuffed with branches and wadded chambers of stalk material. Species to be on the lookout for include [Gyromitra caroliniana](#) and *G. brunnea*, illustrated. If you're lucky enough to see either take lots of pictures; just don't eat it.



[Verpa bohemica](#) or *V. conica* might occasionally wander this far south in the mountains. Both are northern species reminiscent of Half-free Morels. However, the head and stalk of a *Verpa* don't meet until the apex of the underside of the head, not partway up. Also, *Verpa* stalks aren't entirely hollow. Some people eat *Verpa* species.

Finally, morels do not fruit in summer or fall. Look-similar from those seasons include species of [Helvella](#) and stinkhorns such as [Phallus ravenelii](#).

### OMG, I Found A Morel! Now What?

It is good practice to harvest morels by slicing the stalks at ground level rather than pulling them up. Cutting protects the underlying network of fungal threads, the mycelium, of the creature that produced your mushroom and will hopefully do so again next year. Inspect and smell your mushroom. Leave old or rotting finds to decompose in peace. If the morel is a keeper, shake out any ants or large bugs that have taken up residence inside. You won't need them at home.

In the past it was conventional wisdom that morel hunters lucky enough to find lots of mushrooms could harvest them all. Mushrooms are like apples, the theory goes; just don't damage the tree (mycelium). I used to think that way but don't any more. In my limited experience with clearcutting honey holes of morels, chanterelles, and black trumpets I don't recall a single instance where harvests in subsequent seasons were anywhere near as good. Numbers have seemed to gradually recover after a few years of very selective harvesting or leaving a secret patch entirely alone. One man's experience is only that. I'm just saying.

There are also opinions about the best method for transporting morels in the woods. Soft mesh bags are a fine choice when available. They allow the mushrooms to continue to disperse spores along your subsequent path. The same is true for morels lying free in a basket. (This is not a good idea if you're also collecting other types of mushrooms. Damage or contamination by potentially toxic species can occur.) Paper bags work to keep collections separated. Plastic bags should be avoided because mushrooms "sweat" and quickly begin to decompose inside them.

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Before proceeding to the kitchen, we interrupt our program to discuss morel toxicity. It is generally recognized that all wild mushrooms should be cooked before consumption. Cooking kills bacteria and other microbes, makes the nutrition contained in the mushroom more bioavailable, and destroys a subset of the poisonous compounds produced by some species. Raw morels are well-known to be somewhat poisonous and must always, always be well-cooked. Conventional wisdom has been that the culprits are hydrazines related to the potentially deadly compounds found in some *Gyromitra* false morels. [More recent opinions](#) can differ. But cooking doesn't deactivate lead or arsenic. These and other heavy metals accumulate in morels, can't be removed, and can cause illness severe enough to require hospitalization. Once upon a time the standard pesticide applied to apple orchards was Arsenate of Lead. It remains in the soil indefinitely. [Here](#) is Adam Haritan of the deservedly popular YouTube channel "Learn Your Land" on the subject. Bottom line: Don't eat morels found in old apple orchards unless you know for certain that heavy metal pesticides were never deployed there. Now, don't you feel better? I do.

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Kitchen preparation for morels is straightforward. Morels rarely need to be washed. Some cooks discard stalks; others don't. I cut morels in half lengthwise to be sure nobody is still at home inside. Any lingering occupants are evicted. Then I spread the mushroom halves, ridge side down in a single layer, on a plate and refrigerate it for half an hour or so. Morels almost always support a population of itty-bitty bugs that rapidly chill and fall off the mushrooms onto the plate. Ingestion of foreign protein is a given for mushroom foragers, but why not minimize it?

A classic preparation for morels is a simple sauté in butter with a dash of salt and pepper. Cook over lowish heat until the mushrooms have released their liquid and become dry again. At that point they can either be eaten—perhaps on toast, added to other recipes, or frozen for later use. Raw morels can also be dehydrated and stored in jars. They rehydrate well and can be cooked as needed. The flavor and texture will be different but still good.

Be safe, and happy hunting!