

# The Common Toxic Mushrooms of New England

New England is home to some of the best-tasting popular edible and medicinal mushrooms in the world. The region also hosts common mushrooms containing toxins that can cause death and dozens of others responsible for a range of milder unpleasant symptoms. It is as important to know the common toxic species as it is to learn the popular edibles. Below you will be introduced to a number of toxic mushrooms; ones that are responsible for most episodes of mushroom triggered poisoning in Northern New England. This list does not include all toxic mushrooms.



**1) The Destroying Angel: *Amanita virosa* and *A. bisporigera*.** These pure white stately mushrooms are common in forested areas across the region from late summer through the fall. They are medium-large mushrooms with all parts pure white. The young mushroom is initially enclosed in a sac-like veil that remains as a sac-like volva enclosing the swollen base of the mushroom. The caps are rounded, becoming broadly rounded and then flattened at maturity. The gills are white, free from the stalk and with a white spore color, and the stalk has a distinct membranous ring. Destroying Angels contain amatoxins that attack liver and kidney function and can cause death. Initial symptoms of severe GI distress begin 4-8 hours following the meal. Death can occur within a week.

**2) The Fly Agaric: *Amanita muscaria*.** The red variety of this mushroom is iconic and one of the most illustrated mushrooms in the world. Large orange-yellow caps are covered with a concentric array of warts. The gills are white and free and the stem sports a skirted ring and a swollen base without a cup-like volva. Common and growing symbiotically with trees, these mushrooms fruit in late summer and throughout the fall, often accompanying *Boletus edulis*. Though rarely deadly, the toxins, Ibotenic Acid and Muscimol may cause nausea, agitation, euphoria, hallucinations or visions. They also often trigger a very deep sleep.

**3) The False Morel: *Gyromitra esculenta*:** False morels fruit in the spring, at times appearing at the edge of receding snow drifts. They are irregularly rounded and folded deep reddish brown caps on wide gray-white stems. In most regions of Northern New England, false morels are more common than the edible true morel. They are found with conifers. Though they contain gyromitrin, can severely sicken and cause liver damage, they are traditionally eaten in some regions, but only after special preparation. People are killed by False Morels.

**4) The Jack O'Lantern: *Omphalotus illudens*** This bright orange, medium-large, mushroom rots the heartwood of hardwood trees and typically fruits in dense clusters on the ground at the base of the tree. Each mushroom has a 2-4 inch cap that flattens with age and knife-edge gills that run down the orange stalk. The fresh gills glow in the dark with bioluminescence. Unwary novice foragers mistake these mushrooms for chanterelles and suffer hours of nausea and gastrointestinal pyrotechnics from sesquiterpine toxins.

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5) **The Pig-Skin Puffballs** *Scleroderma cepa* (5a) and *S. citrinum*(5b) The Pig-skin Puffballs and earthballs are a group of puffball mushrooms with a thick leathery outer skin and an interior tissue that becomes dark gray black early in its development. Common across a wide range of habitat, they appear from mid-summer through the fall. They are distinguished from edible puffballs by their thick, tough skin and dark interior. They cause moderate to severe gastrointestinal distress.

6) **The Lilac Brown Bolete, Sutorius** (*Tylophilus eximius*) (#6) is particularly striking. It has blue lilac colors when young but the pores and cap mature to milk chocolate brown. It is found in mixed hardwood and conifer forest from mid-summer into the fall. Putting lie to the myth that all non-bluing boletes are edible, for most people, eating this mushroom triggers a number of hours of vigorous gastrointestinal distress.

7) *Boletus huronensis* (#7) is a handsome meaty bolete that some inexperienced foragers mistake as belonging to the *B. edulis*, or King Bolete group. This mushroom has pale yellow flesh that stains slightly blue and lacks the net-veining that distinguish its edible cousin. The pore surface on *B. huronensis* remains pale yellow throughout its lifespan, unlike the *edulis* group that matures from white through yellow to green.

8) **Chicken of the Woods** *Laetiporus huronensis* (8-A) New England is home to 3 common species of this genus. The best known is the bright orange-topped and yellow-pored *L. sulphureus* (8-B) found on wood of oak, ash, cherry and occasionally other hardwoods. It is a popular edible and best collected and used when young and tender. The related *L. cincinnatus* (8-C) has a paler orange-pink top and cream white pores and fruits on the ground at the base of a hardwood. It is equally edible and even preferred by many. The last, *L. huronensis* fruits from conifer wood, most commonly hemlock in Maine and **is toxic**, causing moderate GI distress. **All three species are toxic when raw or undercooked**, and some people are not able to tolerate any of this group, generally complaining of nausea, vomiting and diarrhea. Be cautious when first trying these mushrooms and do not bring them to a pot luck meal.



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9)

***Agaricus placomyces* (#9)** It is important to note that not all members of the *Agaricus* genus in New England are edible. In California this genus is responsible for more mild poisonings than any other group. *A. placomyces* resembles the very edible Meadow mushroom (*A. campestris*) with free gills maturing from pink to brown to almost black and an obvious ring on its stem, but also has dark scales covering the cap and often a flattened cap center. Though not common in Maine, it is occasionally found fruiting in significant numbers. Eating this mushrooms triggers moderate GI distress, nausea, vomiting and diarrhea.

**10) *Ramaria formosa* (#10)** is a lovely thick-based pink-beige coral fungus with yellow highlights at the tips. With age, the color fades, as is common with many species in this genus, making accurate field, or macroscopic identification, difficult. *R. formosa* causes mild-moderate GI distress as do several other members of this genus. Since accurate identification is so challenging, it is not recommended that any mushrooms in the *Ramaria* group be eaten.

**11) Deadly Galerina: *Galerina marginata* (#11)** is a little brown mushroom (LBM) found fruiting in clusters or singly from rotting wood on the forest floor. The mushrooms have 1-2 inch brown caps and paler yellow-brown attached gills above a thin stem. The fleshy ring (partial veil) is sometimes are hard to see. Containing the same deadly toxins as the worst of the *Amanitas*, they pose the greatest risk to young children and those seeking *Psilocybe* (magic) mushrooms that occur on wood. Several related species are equally toxic.

**12) *Neoboletus subvelutipes* (#12)** One widespread generality about toxic boletes is to avoid the blue-staining ones with red pores. ***N. subvelutipes*** fits all danger signs. It has an orange- to rose-brown cap with pores that are initially deep red, maturing to orange. The stem has a mix of rosy reds with a yellow base. All aspects bruise an instant and significant blue. Though people eat these without difficulty, some develop moderate gastrointestinal distress. Quite common, it grows with spruce and hemlock mid-summer to fall.

**13) *Boletus sensibilis* (#13)** New England is home to several boletes with reddish caps, red and yellow stalks, and yellow pores. The edible ones include ***B. bicolor* & *B. speciosus***. However, ***B. sensibilis***, is known to sicken some who eat it. Its brick red cap, pale reddish and yellow stalk and yellow pores all stain instantly blue and the mushroom has a distinct odor of chicken bullion. It is distinguished from edible *B. speciosus* by the absence of net veining (reticulations) on the stalk. The mushroom is widespread and occasional in hardwood forests with oak and beech. This is a group of mushrooms challenging for the beginner!

**14) *Gymnopilus luteus* (#14) The Laughing Mushroom** is a distinctive pale yellow-tan mushroom with an obvious ring that turns orange brown from the released spores. It is found fruiting in clusters from dead hardwood stumps and logs, most frequently birch, beech or maple. The mushroom and a couple of related species contain indoles related to psilocybin and are often sought for recreational use.

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**15) *Inocybe spp.* The Fiber Caps (#15)** The *Inocybe* genus is home to the classic LBMs. They generally have attached gills and snuff brown spores. Many species have caps with copious fibers, hence the group name. They are mycorrhizal with trees. This is a large genus of challenging species to identify; many contain muscarine and will rapidly sicken the consumer.

**16) *Entoloma spp.* (#16)** New England has a large number of species in the large *Entoloma* genus.. The group are all small to medium saprobes with attached gills and pink spore color. Many are known to contain gastrointestinal irritants and only *E. abortivum*, in its aborted form is recommended for edibility.

**17) *Paxillus involutus*; The Poison Pax (#17)** is a medium-large fall-fruiting pale brown mushroom with 2-6 inch caps that start out densely hairy and become radially lined with age. The cap margins are distinctly in-rolled and the gills are decurrent (extending down the stem) and become brown from the maturing spores. They fruit on the ground beneath birch. A common gastro-irritant, some people develop an allergic reaction that can cause death.

**18) *Lactarius torminosus* (and others), The milk caps. (#18)** A large and diverse group of mushrooms that contain edible, inedible and some toxic species. All have attached gills and pale spore print and exude a milky liquid when injured. Some species are known to sicken.



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## ***Edible Mushrooms that are poisonous when raw or undercooked***

- 1) ***Armillaria mellea complex; The Honey Mushrooms (#1)*** are a group of several similar medium sized tan to brown or yellow-brown mushrooms that fruit on wood or from buried wood. These parasitic and saprobic mushrooms often fruit in abundance in the cool fall weather. Popular edibles, especially for people of Eastern European background, they are toxic when raw or under-cooked and not well tolerated by some.
- 2) ***Morchella spp. The true morels (#2)*** in all their various species are among the most widely sought and eaten mushrooms in the US and an esteemed delicacy that is rarely found in Maine's acidic soils. Eaten raw or undercooked they cause significant GI distress.
- 3) ***Laetiporus sulphureus & L. cincinnatus Chicken Mushrooms (#3)*** are increasingly popular edibles because their eye-catching color and size make them both easy to see and easy to identify for a beginning mycophile. These bright orange polypores are found on wood, or in the case of *L. cincinnatus*, on the ground from buried wood and are common from early summer into the fall. This is another mushroom that while a popular edible, causes significant problems when eaten raw and is not tolerated by a small proportion of people even when cooked. If you collect it for food, be sure to choose only young tender fruiting bodies.
- 4) ***Lepista nuda; Blewit (#4)*** is a wonderful vigorous saprobic mushroom that fruits on leaf duff and compost well into the late fall. The distinctive blue-lilac color of the young caps give this mushroom its name. It is a popular edible, but causes severe GI problems when eaten raw or partially cooked.

## ***Edible Mushrooms except when consumed with alcohol***

- 1) ***Coprinus atramentarius; Alcohol Inky*** is a common saprobe, often seen fruiting in clusters or troops from buried wood. The mushroom caps are broadly ovate becoming conical, smooth to silky and off white to gray. The gills mature from off white to gray to black and seem to melt into an inky mess upon maturing. When alcohol consumed with or within 3 days of eating this mushroom, it triggers nausea, palpitations and malaise.
- 2) ***Morchella spp. The morels*** are known as an excellent edible group, however each year there are reports of people reacting to eating a meal of morels with alcohol. Some caution is advised.