BRONX FOREST

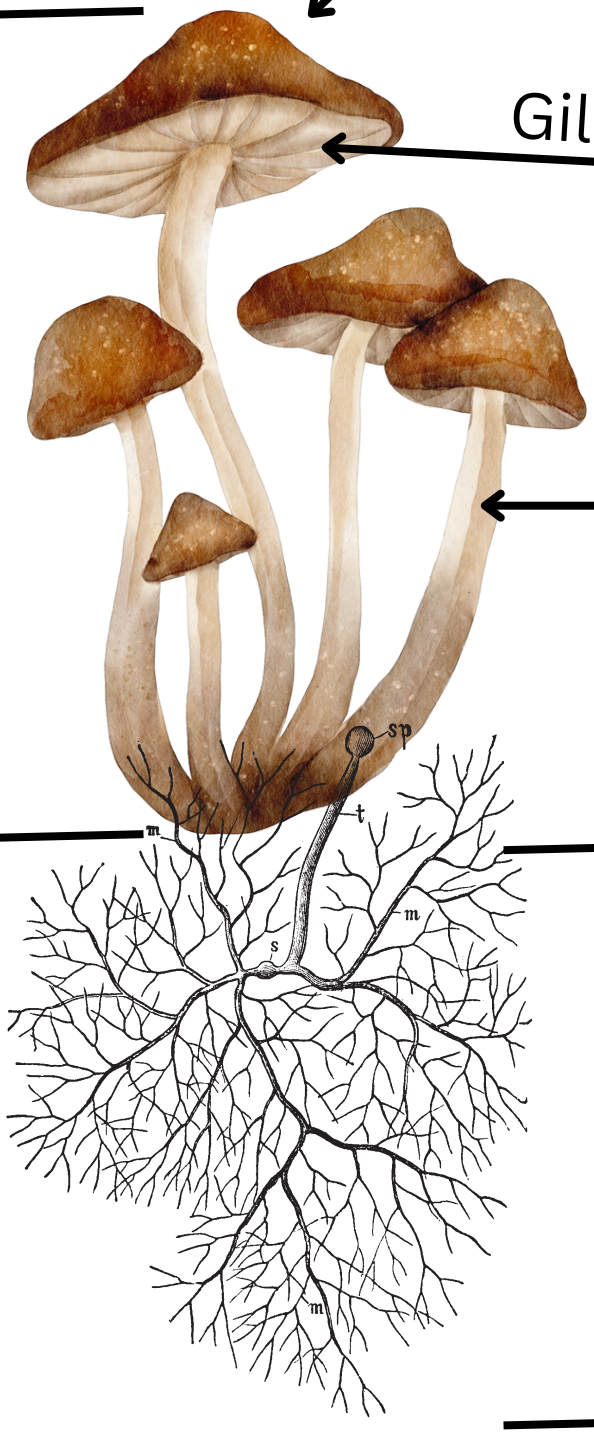
MUSHROOM WALK

Cap/Pileus

Gills/Lamellae

Fruiting body

Stem/stipe



Mycelium

Mushroom Terminology

Fruiting body - the spore-producing organ of a fungus, often seen as a mushroom or toadstool.

Mycelium - A mycelium is a network of fungal threads or hyphae. Mycelia often grow underground but can also thrive in other places such as rotting tree trunks. A single spore can develop into a mycelium. The fruiting bodies of fungi, such as mushrooms, can sprout from a mycelium.

Substrate - Growth medium or food source.

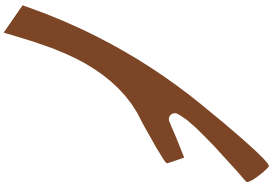
Spores - Seed-like structure of fungal life cycle containing genetic material that is matured in the fruitbody and ejected into the environment to propagate the species.

Saprobic Mushroom: decompose forest litter soil, moss and wood

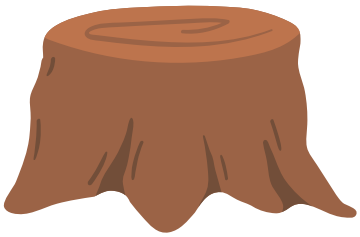
Mycoparasitic Mushroom: decompose other mushroom

Mycorrhizal: The word “mycorrhiza” means fungal root. mycorrhizal fungi improve the nutrient status of their host plants, influencing mineral nutrition, water absorption, growth and disease resistance, whereas in exchange, the host plant is necessary for fungal growth and reproduction.


Mycelium



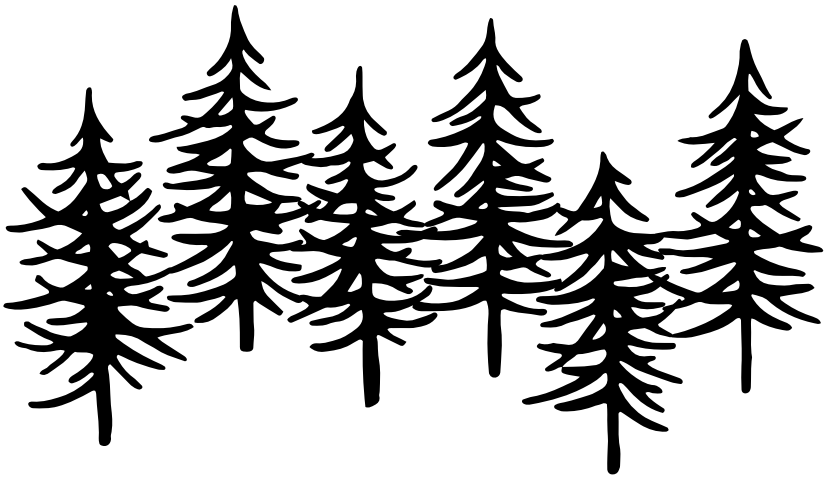
Trees you should learn to identify



The key in foraging mushroom is knowing where to find what you are looking for, to not waste time.

Hardwood / Decideous trees:

Red /White Oak tree
Beech trees
Birch trees
Elm

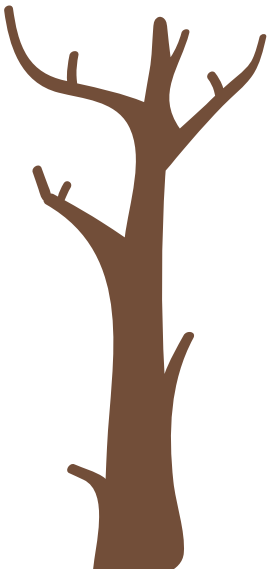


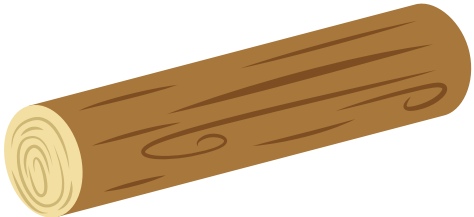
Soft wood/conifers trees :

Pine
Spruce
Hemlock

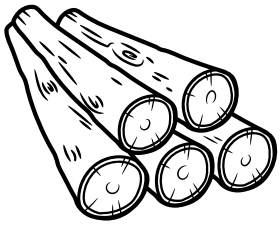
Tips:

Study 1 tree at a time
Learn the tree identification markers.
Visit that tree every season to pick up on ID markers & notice the subtle or big differences.
Find out what type of mushroom grows on the tree and the season..





Jelly Mushroom



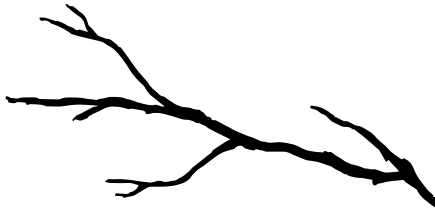
The jelly fungi are diverse and complicated, belonging to several groups within the phylum Basidiomycota. They are colored white, orange, pink, rose, brown or black. The mushrooms are shapeless, shaped like cups, railroad spikes or branched like coral. The common name of yellow to orange species is witches butter. Jelly fungi are really different than other mushrooms.

The basidia (spore-making cells) of most mushrooms are a single, club-like cell. They are found on ridges or lining tubes under the mushroom cap. The basidia of jelly fungi either have walls or are forked. They are located on the upper surface, not the lower surface. The only species grown and sold in stores is clouds ear or woods ear (Auricularia auricula). It is used in soup. Some people like the slippery, crunchy texture.

Jelly fungi often grow on logs, stumps and twigs. Some species are parasitic on other fungi, mosses, ferns or seed plants. The best time to find them is in the fall or in the spring below melting snow banks. Their rubbery flesh may protect them from drying out and against freezing. They shrink when the air is dry and then swell up again when it rains.

These mushrooms are unique in that their fruiting bodies can persist for months on a stick, log, or stump in a dehydrated or frozen state... only to rebound during a winter rain or warm spell.

Two fascinating jelly fungi that flourish during the winter season include the world-famous Wood Ear (Auricularia angiospermarum) and the Amber Jelly Roll (Exidia recisa). Both mushrooms are edible and both are often found in abundance... even amongst snow and freezing temperatures.



Botanical name: Auricularia **Common name:** Wood ear

Location & Season: dead and living trees—typically older trees

Health benefit:

Wood Ear Mushrooms contain: amino acids, fiber, copper, pantothenic acid, selenium, riboflavin, thiamin, magnesium, zinc, folate, manganese, beta glucans, proteoglycans, polysaccharides and heteropolysaccharides.

Wood Ear mushrooms are added to dishes to help improve breathing, sore throats, to reduce colds and fevers, to enhance well-being and to boost circulation.

Wood ear is an edible mushroom that is a common ingredient in Chinese and Vietnamese cuisine. It is usually sold dry and needs to be soaked before cooking to get crispy. New research shows that wood ear fungus offers many benefits, such as protecting the liver, lowering cholesterol and promoting gut health. It is also high in fiber and antioxidants.

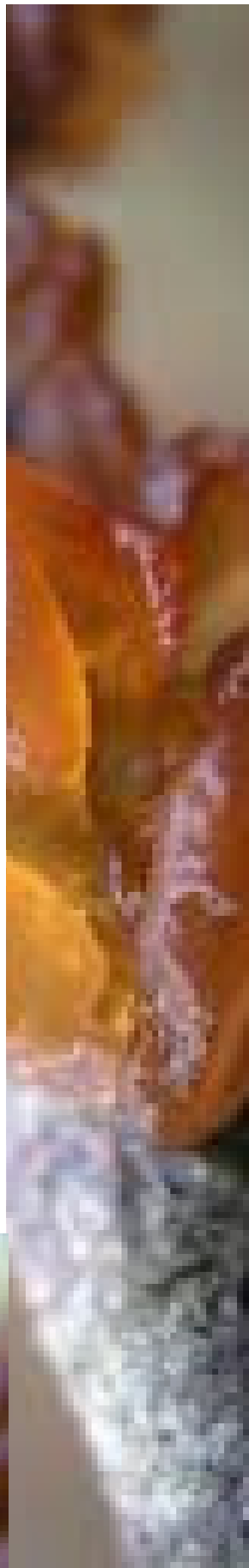
Precautions

Do not consume Wood Ear Mushroom if you are taking blood thinners.

Recipe link https://redhousespice.com/wood-ear-mushroom-salad/


Dried
version

Botanical name: Exidia recisa **Common name:** Amber jelly roll



Location & season:

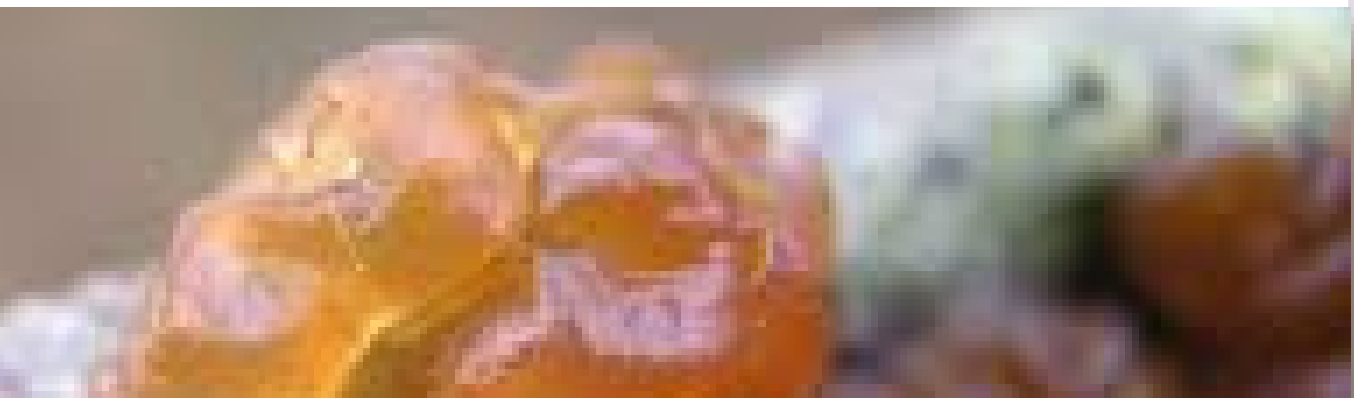
It occurs year-round but is more common in fall and winter. In many regions, it is widely known as a winter mushroom. It grows on recently dead hardwood branches, sticks, and logs. Amber jellies especially like oak wood.

Health benefit:

Studies on nutrition and health benefits of this particular fungus are rare but fungus of the same Family are know to have many health benefits including reducing blood pressure and cholesterol levels. Similar species also have huge amounts of proteins, fats, polysaccharides and Iron, so eating them regularly could prevent diseases related to iron deficiency such as anemia. This species probably also contains Pectin, Calcium, Vitamin D, B1, and B2.

It is rather tasteless with a gelatinous texture,

This species is sometimes is said to be inedible, but that probably only refers to the fact that this particular species is not commonly eaten.




Dried
version

Witche's butter
Tremella mesenterica

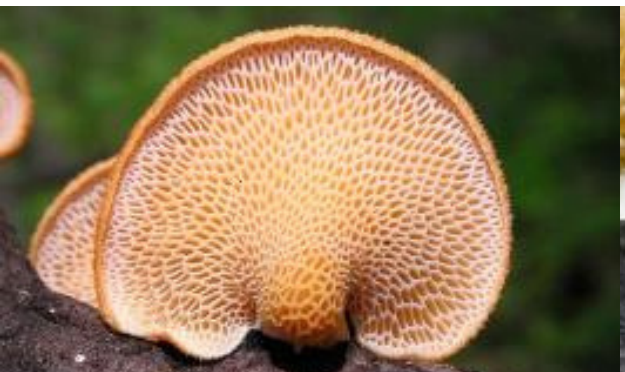



Polypore Mushroom

Polypore fungi are a group of fungi with pores or tubes on the underside. They are a morphological group of basidiomycetes, and not all polypores are closely related to each other. Polypores are also called bracket fungi or shelf fungi, and they characteristically produce woody, shelf- or bracket-shaped or occasionally circular fruiting bodies that are called conks.

Most polypores inhabit tree trunks or branches consuming the wood, but some soil-inhabiting species form mycorrhiza with trees. Polypores and the related corticioid fungi are the most important agents of wood decay, playing a very significant role in nutrient cycling and aiding carbon dioxide absorption by forest ecosystems.

Polypores are saprobes that assist in the decomposition of deadwood, and in some cases, they are pathogenic, acting as parasites and slowly killing their hosts. The mycelium of polypores consumes the wood differently, depending on the species; some consume lignin and create a white rot, while others consume cellulose, making them brown rot fungi.



White rot fungi vs Brown rot fungi

Wood decaying fungal polypores use two different methods to rot or breakdown their host.

Wood is made up of cellulose and lignin. Cellulose is the primary wall of the fungus, while lignin is the second wall inside the cellulose.

Wood can rot in one of two ways: by decaying the white or brown substance. Wood-decaying fungi can be divided into white rot and brown rot fungi.

White rot fungi

A white-rot fungus breaks down lignin using special enzymes, leaving the white cellulose behind. The wood often changes texture after decomposition, becoming soft, fibrous, moist, stringy, or spongy.

Brown rot fungi

Brown rot fungi breaks down white cellulose, leaving behind the brown lignin. The decomposed wood fractures and cracks into cube like pieces.

White rot & Brown rot

Botanical name: Trametes Versicolor **Common name:** Turkey tail

Location & season

T. versicolor is a common fungal species of the basidiomycetes class, found growing on logs, stumps, or dead trunks of deciduous trees (e.g., oak or birch) and some conifers (e.g., fir and pine trees) in North America, Asia, and Europe. Like many others in its class, turkey tail is a white-rot fungus. These fungi play an important role in breaking down lignin in rotting wood, leaving behind whitish, soft, spongy cellulose. This action helps return nutrients to the soil, where other plants may access them for their own growth.

You will most often see turkey tails that feature various shades of white, brown, red, orange, cinnamon and grey. However you may also see hues of green and blue sometimes.
The color of these mushrooms is highly variable, so color shouldn't be your only identifying characteristic.

Health benefit:

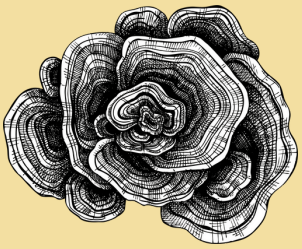
Turkey tail has well-documented uses for supporting immune function, reducing inflammation, improving gut health, and enhancing the efficacy of cancer treatments.

Researchers are exploring how turkey tail may help balance blood sugar levels, boost athletic performance, fight viral and bacterial infections, and reduce fatigue. Some proponents of turkey tail believe it can prevent urinary tract infections (UTIs) and protect against age-related cognitive decline.

Turkey tail
Trametes Versicolor

optimal when underside is white


Turkey tail
pores



Turkey tail look alike

Violet toothed polypore

Trichaptum biforme

Thin Maze Polypore

Daedaleopsis confragosa

Thin Maze Polypore

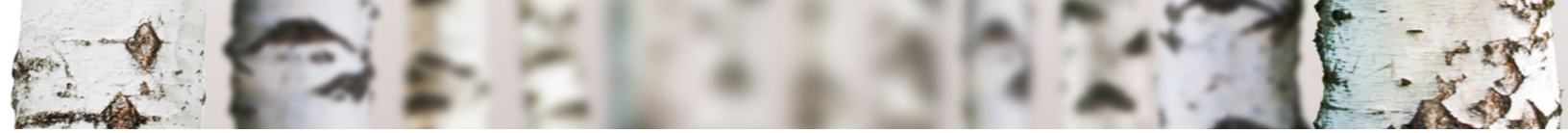

False turkey tail
Stereum Ostrea


The back is smooth

Crust fungus

Stereum complicatum

Honorary mention



Botanical name: Fomitopsis betulina **Common name:** Birch Polypore

Location & Season

Only grows on dead/dying Birch trees They are annual, emerging from the bark of dead or dying birches in spring and summer. They deteriorate slowly and persist through the winter; although when they are brown or blackened they are no longer useful.

Health benefit:

Birch trees have long been known to carry medicinal properties. Betulinic acid from birch trees reduces inflammation, treats wounds as an antiseptic, and stops bleeding. It also may initiate apoptosis, the death of cancer cells. The fungus soaks up these properties from the tree as it gathers nutrition, creating a super concentrated version in mushroom form. The outer layer of fresh birch polypore is thick, like skin. It can be peeled off and used to wrap around cuts of fingers, its sticks naturally, too! It might take a little finagling to use it on a large wound, but it is possible.

The birch polypore contains agaric acid, which is poisonous to whipworms, an intestinal parasite.killing parasites, this polypore is also traditionally used as an anesthetic, immunity booster, anti-inflammatory, antiseptic, styptic (stops bleeding from cuts), and to fight viral and bacterial infections. It contains an antibiotic compound called piptamine, which has successfully been used to treat e-coli.

The birch polypore mushroom may boost the immune system and soothe gastrointestinal issues. It can also deter harmful organisms and prevent damaging cells from proliferating. And birch polypore mushrooms might be able to reduce redness and swelling throughout the body, thus promoting a normal response to inflammation. You can use the birch polypore mushroom in several different ways, enjoyed dried and powdered, or brewed into a tea or as an herbal tincture.



Botanical name: Inonotus Obliquus **Common name:** Chaga

Location & season

Chaga can be harvested year-round!

Chaga appears on the tops of birch trees as a black, charcoal-like mass (called a conk) with a woody, orange interior.

For years chaga was considered a member of the polypore family of fungi, but has recently been re-classified under hymenochaetaceae in the basidiomycetes genius.

Although it's typically referred to as a mushroom, Chaga (Inonotus obliquus) is actually a sclerotia, a hardened mass of fungal mycelium. A parasitic fungus, Chaga primarily grows on birch trees in cold climates, like those in Canada, Siberia, Scandinavia, and some parts of the United States.

How to harvest

Chaga can take up to 20 years to reach full maturity, it has years to soak up all the pollutants from its surrounding environment. Do not harvest Chaga that is close to roads, factories, railroads, and farms.

Find Chaga that are growing on a living tree. Chaga is a parasitic fungus, so when the host tree dies, the Chaga dies, too.

find a Chaga mushroom that is at least the size of a grapefruit.. The bigger the better! The larger a conk grows, the more time it has to extract and store nutrients from the tree, making it more nutrient-dense.

Once you've found Chaga that meets the three above-mentioned criteria, you can remove it by cutting it with a knife, chopping with an ax, or prying it off with a stick. Now, this is the most important point: be sure to leave at least 20-30% of the Chaga intact on the tree. This will allow the Chaga to grow back for others to harvest and enjoy. Be sure to harvest with great care so that you don't damage the host tree, as this can leave the tree susceptible to infections.