Some Spring and Summer Mushrooms of the GTA

Presented by Pat Burchell, MST Education Committee

Photos: Vello Soots or Pat Burchell, except as noted

Revised 2022

What is a mushroom?

- the fruiting body of a fungus

What is a fungus?

- neither a plant nor an animal
- one of nature's recyclers

The mycelium of the fungus is usually hidden in the substrate in which it grows and we often only notice the fungus is there when it fruits

FUNGI IN NATURE

- **SAPROPHYTIC:** feeding on dead or decaying organic matter; e.g. in the soil, on rotting wood, leaf or needle duff, dung, etc.
- **PARASITIC:** feeding on another living organism; e.g. on plants, especially trees, other mushrooms, insects, etc.
- **MYCORRHIZAL:** in a symbiotic, nutrient exchanging relationship with the rootlets of plants, especially trees

MYCORRHIZAL RELATIONSHIP

The fungus provides the plant with micronutrients present in the soil, in exchange for sugars produced by the plant photosynthesis

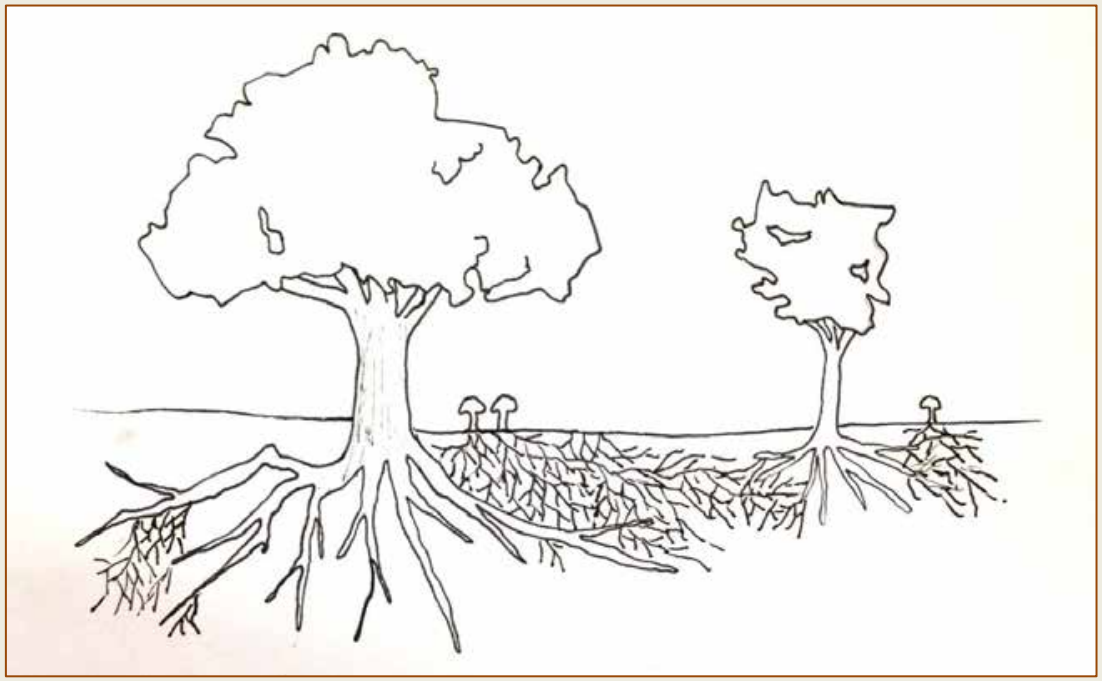


Illustration: Hillary Hatzipetrakos

The Ghost plant, *Monotopa uniflora*, forms an underground network with mycorrhizal fungi that pass on sugars that they have obtained from green plants

WHERE TO LOOK FOR MUSHROOMS

On wood

- Most species which fruit early in the mushroom season are saprophytic and many will be found on wood; e.g. rotting logs and stumps, buried wood, wood chips, dead or dying trees
- Although most bracket fungi are annuals, they are tough and the fruiting bodies from the previous year will still be found in the spring

In the forest

- Gilled mushrooms that do not grow on wood and fruit in late spring or summer may be mycorrhizal; the greater the diversity of tree species the greater the variety of mushrooms to be found

GILLED MUSHROOMS

Spores are produced on gills or lamellae on the under side of the cap.

- ***Amanita***
- ***Coprinoid mushrooms***
- ***Agaricus***
- ***Russula***
- ***Other common species***

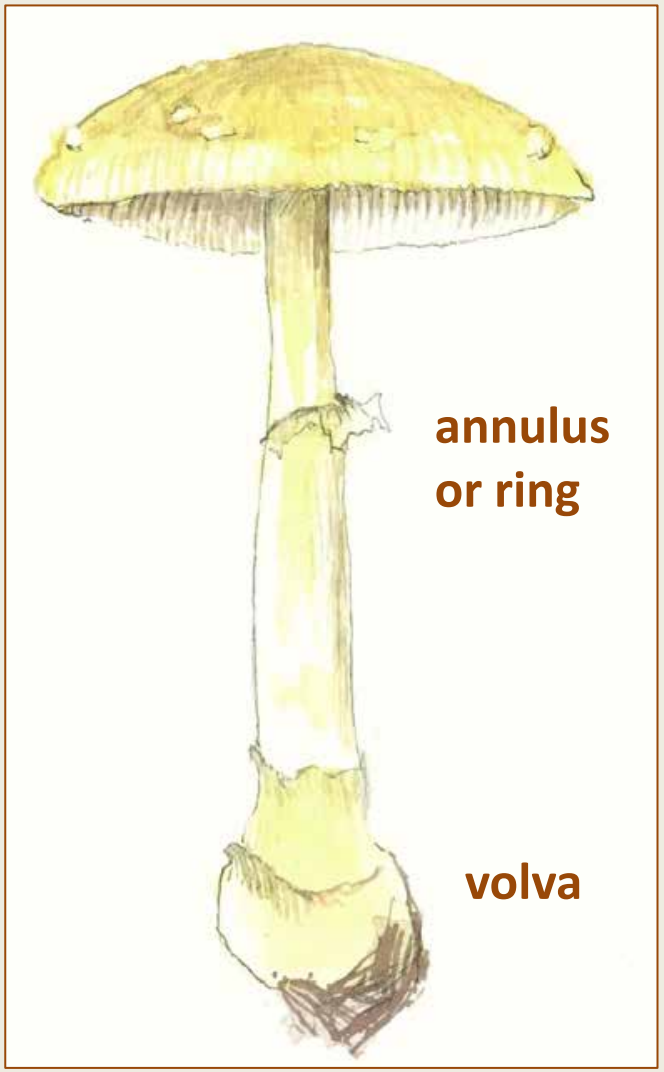


Illustration: Hillary Hatzipetrakos

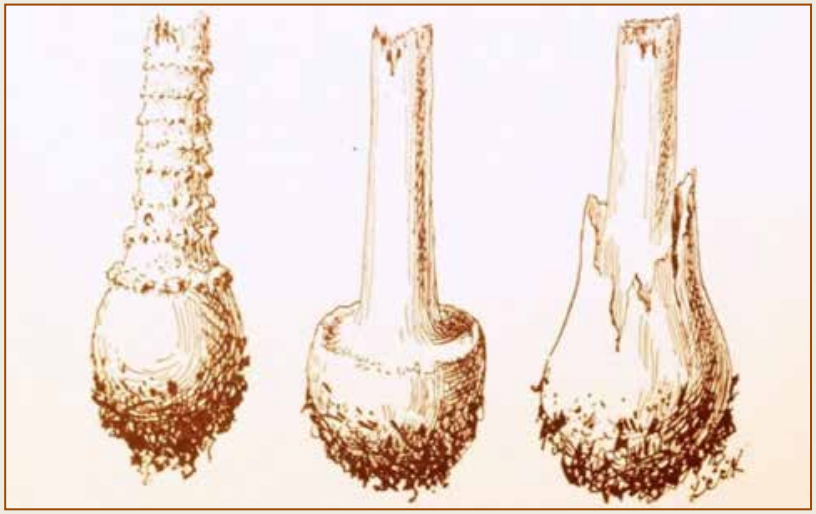
Amanita

Amanitas **always have a volva (from universal veil)**

They may also have an annulus or ring (from partial veil)

Amanitas **are mycorrhizal and may be found beginning in early July**

Most *Amanitas* are poisonous



Different kinds of volva at base of stipe

Amanita **species with grey universal veil**

Amanita muscaria - Fly Agaric

Has a scaly volva and veil remnants on the cap

Has an annulus or ring

Yellow variety *Amanita muscaria var. guessowii* is found in Ontario beginning in July

Amanita amerivirosa / Amanita bisporigera - Destroying angel

- have a sac-like volva, and lack veil remnants on the cap
- have an annulus or ring

Both are pure white and are difficult to tell apart, except microscopically, but all pure white *Amanitas* are deadly poisonous

Amanita section *Vaginatae*

cf. A. vaginata, A. fulva, A. sinicoflava

Has a distinct cup or sac-like volva; often lacks volva remnants on cap

Has no annulus or ring

Variable in colour

Species are difficult to distinguish; many North American species are being renamed, to distinguish them from similar European species

Coprinoid mushrooms - Inky caps

***Coprinus comatus* - Shaggy Mane** is commonly found in late summer or fall

Coprinoid mushrooms like *Coprinus comatus* may **deliquesce** as they age

Coprinoid mushrooms - Inky caps

Some species of Coprinoid mushrooms may be seen in southern Ontario as early as mid June, but they are more common in the summer and fall

Coprinopsis variegata (= Coprinus quadrifidus) **has conical whitish caps covered with cottony patches and is one of the earliest to appear, growing in clusters on rotted wood**

Coprinoid mushrooms - Inky caps

Coprinellus micaceus (= Coprinus micaceus) - Mica cap - tan caps

Coprinopsis atramentaria (= Coprinus atramentarius) - Tippler's bane - grey caps; has a toxic reaction with alcohol

Both are saprophytic and grow in clusters on buried wood

Agaricus

The button, cremini and portabello mushrooms you buy in the store are all varieties of the same cultivated species, *Agaricus bisporus*

Photo: Simona Margaritescu

Agaricus bitorquis **is a wild species sometimes found in urban yards and driveways beginning in June**

Russulas

may be found in southern Ontario beginning in July

Russula emetica group

- includes several species which have a red cap, white gills and stalk

Russula paludosa

- reddish cap, often with a yellow-orange centre, growing under conifers

Russulas

Not all *Russulas* are red, but most are similar in shape and brittle in texture, and many have white gills and stalk

Other gilled mushrooms growing on wood

***Megacollybia rodmanii (= M. platyphylla)* - grey-brown cap, white stalk, widely spaced gills and fruits early in the season**

***Pluteus cervinus* (= Pluteus atricapillus) - Deer mushroom - tan to brown cap, white stalk and narrowly spaced gills**

Other gilled mushrooms growing on wood

Mycena leaiana

- small orange mushroom growing in clusters on rotten logs and stumps of deciduous trees

Xeromphalina campanella

- small orange-yellow mushroom growing in large clusters on rotten logs and stumps of coniferous trees

CHANTERELLES

Chanterelles have folds or ridges instead of true gills

Yellow Chanterelle *Cantharellus cibarius (complex)*

- orange-yellow in colour; grows in mixed woods from late June to September

Craterellus tubaeformis (= Cantharellus tubaeformis)

- funnel-shaped brown cap and orange-yellow stalk; grows in wet areas

BOLETES

Have tubes rather than gills on the under side of the cap and the tube mouths or pores look somewhat like a sponge

Illustration: Robert Gait

***Tylopilus felleus* - Bitter bolete is sometimes mistaken for cep or porcini mushroom**

***Suillus luteus* - Slippery Jack has a slimy cap and a ring or annulus, and grows under pines**

BRACKET FUNGI

Have tubes instead of gills

Are generally tough or woody

May or may not have a stalk

Grow on wood (living or dead)

Fomes fomentarius - Tinder Polypore

Fomitopsis betulina (= Piptoporus betulinus - Birch Polypore

Trametes versicolor - **Turkey Tail is thin and tough, with concentric bands of colour in varying shades of brown or gray**

Photo: John Werner

Cerioporus squamosus (= Polyporus squamosus) - **Dryad's Saddle with it's scaly top and white pore surface is one of the earliest polypores to fruit in the spring**

Ganoderma

***Ganoderma applanatum* - Artist's Conk** is a tough and woody perennial polypore which grows on hardwoods

Ganoderma tsugae has a shiny lacquered appearance and grows on conifers

TOOTH FUNGI

Have teeth instead of gills or tubes

***Hydnum repandum* - Hedgehog mushroom** grows on the ground in mixed woods

***Hericium americanum* - Bear's head** grows on wood and lacks a distinct cap and stalk

PUFFBALLS

Calvatia gigantea - Giant puffball

- white to gray or buff; growing in fields, gardens lightly wooded areas

- typically 20-50 cm across, but may be larger

Lycoperdon perlatum - Gem-studded puffball

- white and grows on the ground, singly or in small clusters

PUFFBALLS
True or false?

True puffballs, like the *Calvatia* species shown above, are pure white inside until the spores begin to mature, and are safe to eat when young and fresh.

False puffballs, like the earthball *Scleroderma citrinum* are dark coloured inside even when quite young, and are poisonous

EARTHSTARS

Earthstars have an outer covering which opens up into arms which curve down to the ground and support the ball-like spore case which resembles a puffball

Illustration: Robert Gait

Geastrum triplex

Geastrum saccatum

Photo: Robert Gait

STINKHORNS

Stinkhorns have an unpleasant odour which attracts flies. The flies spread the spores which are found in the slime on the head of the stinkhorn

Phallus impudicus

"Eggs" and mature stinkhorns

***Mutinus ravenelii* - Dog stinkhorn**

CUP FUNGI

Cup shaped mushrooms

Sarcoscypha austriaca
(Scarlet cup)

Urnula craterium
(Devil's urn)

Caloscypha fulgens

Aleuria aurantia **(Orange peel)**

MORELS

Are related to the cup fungi

Black morels have dark coloured ridges

[identified in guidebooks as *Morchella angusticeps*, or in older books as *Morchella elata (Eur. sp.)*]

Yellow morels have light coloured ridges

[identified in guidebooks as *Morchella americana*, or in older books as *Morchella esculenta (Eur. sp.)*]

Morels & False Morels

Morels have pitted caps and are hollow and may be found from late April to early June

Gyromitra esculenta **has a cap which is folded or wrinkled, but not pitted, it is not hollow and it is poisonous**

OTHER FUNGI

Dacrymyces chrysospermus

(= Dacrymyces palmatus)

- Orange Jelly Fungus

- found on conifer wood from early spring to late fall

Xylaria polymorpha -

Dead Man's Fingers

- tough and woody; grows on rotting stumps and logs

In spring "fingers" are covered with a greyish-white powder, but later turn completely black

Mycological Society of Toronto

Visit out website at www.myctor.org

For help with identification email photos to education@myctor.org

NEED HELP IDENTIFYING A MUSHROOM?

- **Photograph the specimen(s); be sure to show all parts of the mushroom, including the underside of the cap. If possible, show young and mature specimens**

- **Make a spore print for gilled mushrooms to find out the colour of the spores**

- **Make a note of where the mushroom growing; e.g. on the ground, on wood, on leaf litter, in moss, etc. If it was growing on wood, note the type of wood (coniferous or deciduous) or the species of tree if known. If it is growing on the ground, note what kinds of trees were growing nearby**

MUSHROOMS OF TORONTO

A GUIDE TO THEIR REMARKABLE WORLD

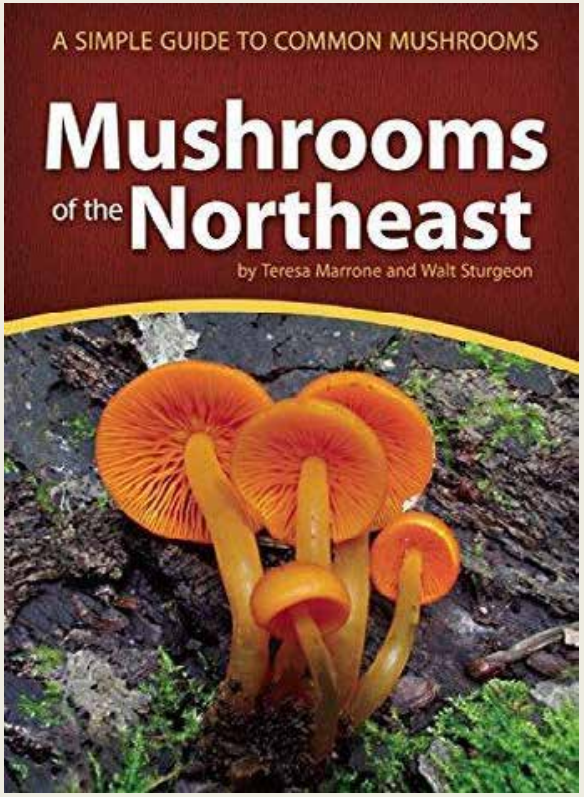
City of Toronto Biodiversity Series

Download PDF version from MST website at:

www.myctor.org

Mushrooms of the Northeast

by Teresa Marrone and Walt Sturgeon



WEBSITES

mushroomexpert.com
by Michael Kuo

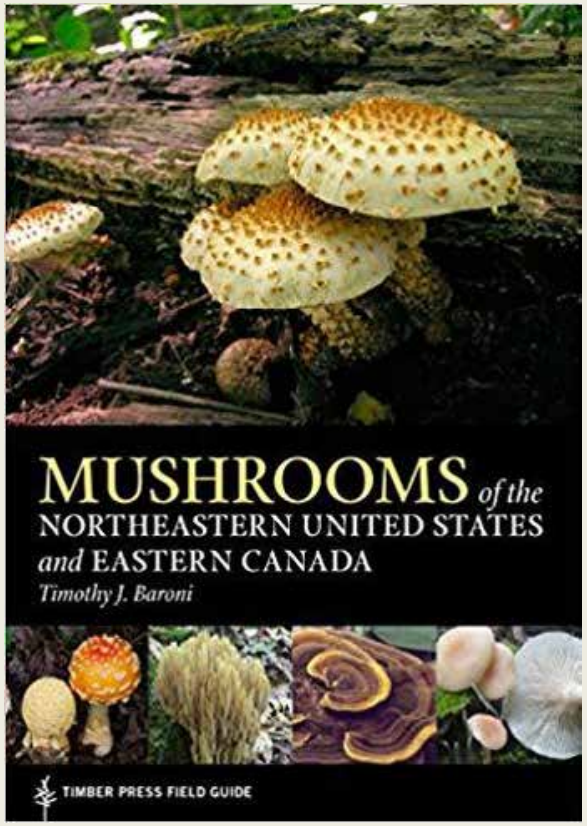
mycoquebec.org
Mycoquebec

- also La fonge 2.0 for iPhone, iPad, Android

speciesfungorum.org

Mushrooms of the Northeastern United States and Eastern Canada

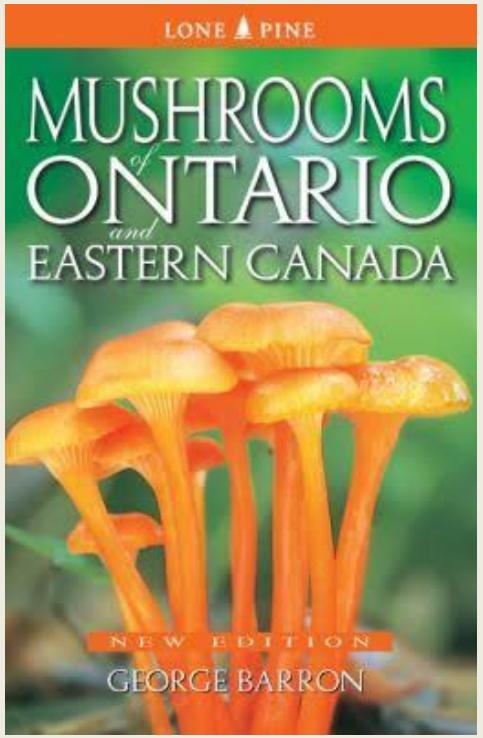
by Timothy J. Baroni



Gilled mushrooms are arranged by spore colour in both these books

Mushrooms of Ontario and Eastern North America

by George Barron



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