

Introduction to Mushroom Foraging

For the Mississippi Valley Conservancy's
Mushroom Foraging
with Virtual Mushroom Identification Session
– October 10, 2020 –



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Thomas Roehl has been mushroom hunting for nine years since taking a class on fungi while an undergraduate at the University of Virginia. After graduating, he started a blog (Fungus Fact Friday, <https://www.fungusfactfriday.com>) and became a foray leader at the Mycological Association of Washington D.C. He recently moved to La Crosse to pursue a master's degree in mycology.

MISSISSIPPI VALLEY CONSERVANCY

Founded in 1997, Mississippi Valley Conservancy is a nationally accredited nonprofit regional land trust that has permanently protected 21,093 acres of scenic lands in southwestern Wisconsin by working with private landowners, businesses and local communities on voluntary conservation projects. The focus of the Conservancy is to conserve the bluffs, forests, prairies, wetlands, streams and farms that enrich our communities, for the health and well-being of current and future generations. www.mississippivalleyconservancy.org.



UW-LA CROSSE MYCOLOGY CLUB

The UWL Mycology Club is a student organization at UWL open to the community that promotes the appreciation of fungi. We hold various events throughout the year, including forays, movie events, culturing demonstrations, and more. Our activities have been put on hold due to the pandemic, but we're hoping to start back up this semester. Check our Facebook page for details: <https://m.facebook.com/uwlaxmycology/>

Mushroom Hunting Basics

What should I bring?

- Basket
- Paper or wax bags (not plastic) – a tackle box also works great!
- Knife
- Camera (with GPS to mark your secret spots!)
- All your senses (sight, touch, smell, taste*)
- Magnifying glass
- Safety items: water, snack, map, etc.



Where should I go?

- Check local park guidelines – MVC properties allow mushroom hunting, but not all parks do
- Ideal habitats by season:
 - Winter: dead hardwoods (during warm spells)
 - Spring: elm, ash, cottonwood trees
 - Summer: forests, both hardwood and conifer
 - **Fall: oak tree forests**

How do I collect mushrooms?

- For identification...
 - Carefully dig up the base of the mushroom with your knife (leave the soil)
 - Photograph the top, side, and underside
 - Note the habitat: on wood/ground, in hardwood/conifer forest, etc.
 - Put each species in a separate bag
- For eating...
 - **WHEN IN DOUBT, THROW IT OUT!** – Some mushrooms are **deadly poisonous**, so if you're unsure of your ID, leave it behind
 - Cut off the mushroom at the base. This avoids getting dirt into your basket
 - Separate edible mushrooms from unknowns
 - Keep a sample of any mushrooms you eat in case you get sick and need an ID

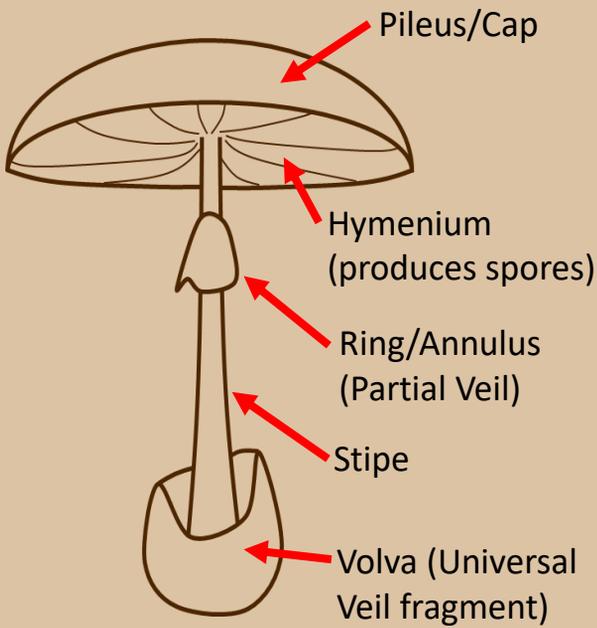
Mushroom Safety

Mushrooms are safe to touch. Poisons must be swallowed to cause harm.

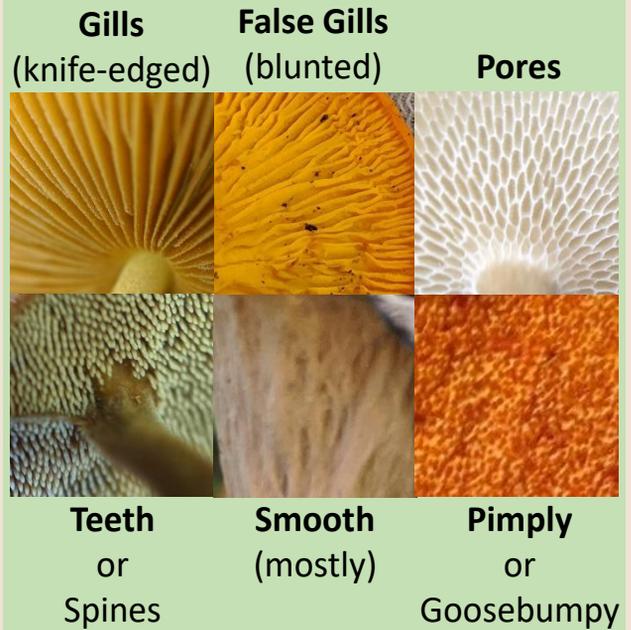
* **Tasting Mushrooms:** take a small piece, chew for several seconds, spit out. Useful for ID of boletes and milkcaps, but do not taste *Amanita* mushrooms.

What is a Mushroom?

Mushroom Terminology



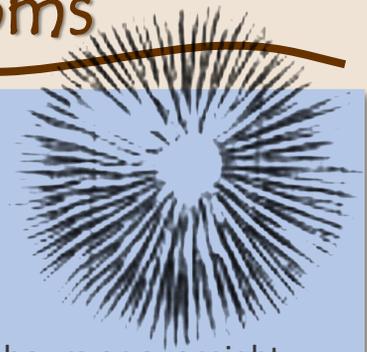
Hymenium Types



Biology of Fungi and Mushrooms

- Fungi are neither plants nor animals and belong to their own kingdom: **Fungi**
 - Fungi are more closely related to animals than to plants
- Fungi are made up of chains of cells called **hyphae**
 - Hyphae fuse with each other to create a network called a **mycelium**
 - The mycelium is the main body of the fungus and grows invisibly underground
- Fungi can be decomposers, mycorrhizal (help trees grow), or parasites
- A **mushroom** is the reproductive organ of a mycelium
 - This is similar to an apple, which is the reproductive organ of an apple tree
 - Picking a mushroom is no more harmful than picking an apple
- The goal of the mushroom is to produce and release **spores**
 - Spores are tiny cells designed to spread the fungus
 - Each spore can grow into a new organism, but must fuse with another spore before it can produce mushrooms
- **Lichens** are also fungi, but have algae inside
 - Lichens farm algae, which make their own energy using photosynthesis

Identifying Mushrooms



Taking a Spore Print

- Remove the stipe
- Put the cap hymenium-side down on a piece of paper
- Cover with a bowl for a few hours or overnight
- Spores will drop onto paper – check the color

Resources

- **Field guides** are the best resources: photos, keys, descriptions, and helpful pointers all in one place! You can download a free field guide here: https://uknowledge.uky.edu/upk_plant_sciences/5/ but there are many others available from Amazon and other booksellers. I prefer printed and bound versions – it's easier to flip through pages!
- **MushroomExpert.Com** is an online field guide with great coverage of Midwest species, but does not discuss edibility.
- **Web sites** like Fungi on Wood, California Fungi, Fungus Fact Friday, First-Nature, Amanitaceae.org, and Mushroom Observer can provide details to confirm your ID, but are most useful after you have a first guess for your ID.
- **Search engines** can bring up other useful resources by searching for scientific or common names of mushrooms.
- **Phone apps:** take a photo and artificial intelligence will try to ID it. They are not very accurate, but can get you close. Never use one of these apps to ID something you want to eat. Popular apps include: Seek, Picture Mushroom, Shroomify, Mushroom Identify, and iNaturalist. My favorite is iNaturalist, since real people can check the AI's ID.

Using a Key

- Most field guides have a key at the beginning of each section. Keys usually have numbered pairs of questions.
- Read both options in a numbered pair.
- Choose the option that better fits your mushroom. This will either give you a scientific name or a number.
- If you got a number, go to that numbered pair in the key. Keep repeating until you end up at a scientific name.
- Go to the page in your guide for the scientific name. Check your mushroom against the description on this page.
- Sometimes, it's hard to tell which option to choose. In this case, mark your place and follow the first path. If that does not lead you to a matching mushroom, go back to your mark and choose the other path.

Common October Mushrooms

Chicken of the Woods

Orange top
Yellow bottom
Pores
On dead hardwoods



Lookalikes: *Laetiporus huronensis* (on conifer), *Hapalopilus croceus*, *Omphalotus illudens*

Hen of the Woods

Greyish top
Many small caps
White bottom
Pores
At the bases of oak trees



Lookalikes: *Meripilus sumstinei*

Shrimp of the Woods / Hunter's Heart / Aborted *Entoloma*

Soft white outside
Marbled white/brown inside
Top- to heart-shaped, irregular
On the ground or wood
Entoloma abortivum parasitizing Honey Mushrooms



Lookalikes: *Scleroderma*, *Amanita*

Deadly *Galerina* – POISONOUS!

Brownish cap, stipe
White to brown ring
Gills, **brown spores**
Soft lined stipe
On dead wood



Typically smaller than Honey Mushrooms

Honey Mushrooms

Yellow to brown cap
White ring
Gills, **white spores**
Fibrous lined stipe
In clusters on/around live/dead wood



Lookalikes: **Deadly *Galerina***

Puffballs

Whitish outside
White inside – no
colors or patterns
Circular to balloon-shaped
On ground or wood in fields and forests



Lookalikes: *Scleroderma*, *Amanita*

Oyster Mushrooms

White to grey/tan cap
White decurrent gills
Short lateral stipe
On dead hardwood
Whitish spores



Lookalikes: *Crepidotus*, *Pleurocybella*, *Hypsizygus*

Lion's Mane, *Hericium* spp.

White spines hanging down
Branched or unbranched
On wood
No cap



Lookalikes: *Spongipellis pachyodon*

Blewits

Purple when young
Grey/tan when old
Lilac gills, **white spores**
Bulbous base
On leaf litter



Lookalikes: ***Cortinarius***, *Laccaria ochropurpurea*