# Harvesting Edible Mushrooms in the Pacific Northwest

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# Presentation Overview

Fungal Ecology 101
- What they are
- What they eat

Identifying Mushrooms
- Noteworthy characteristics

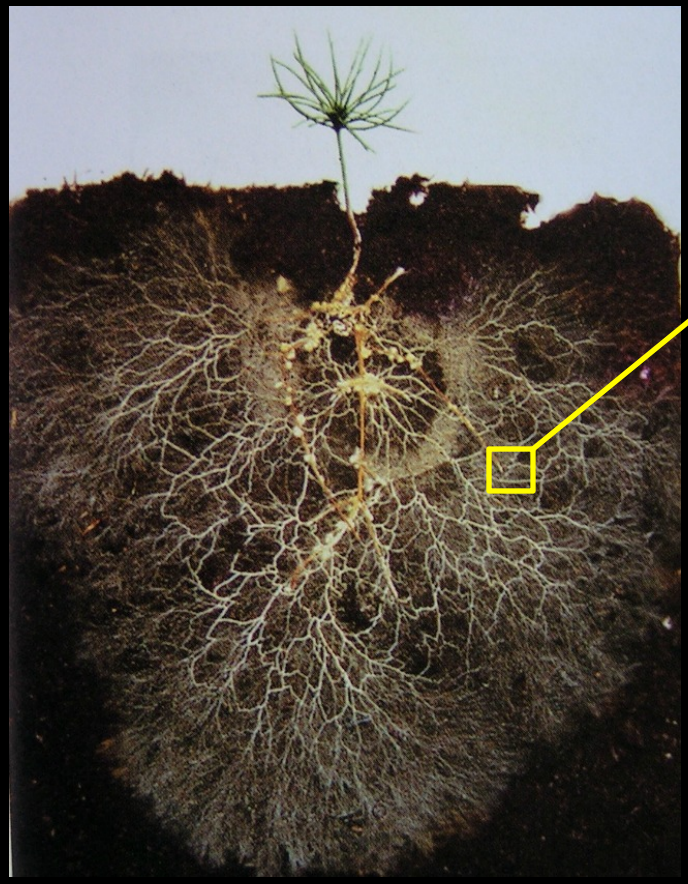
Field Safety

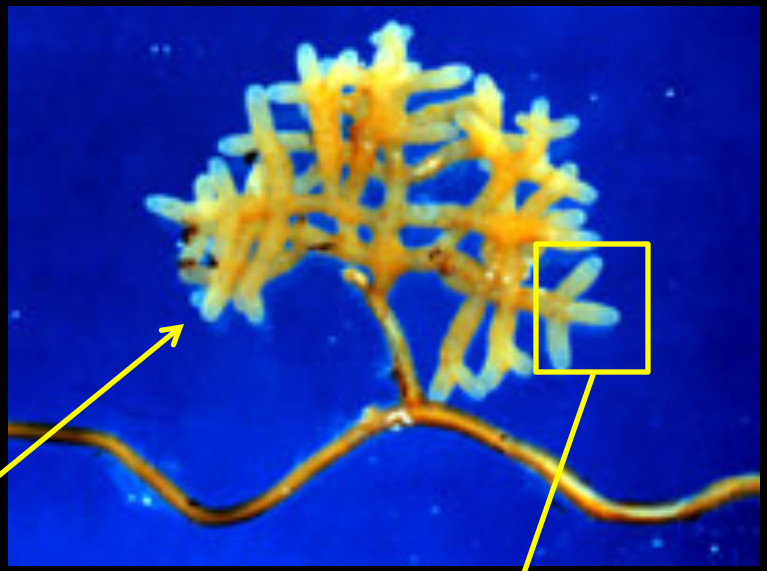
PNW Edible Mushrooms and their Lookalikes

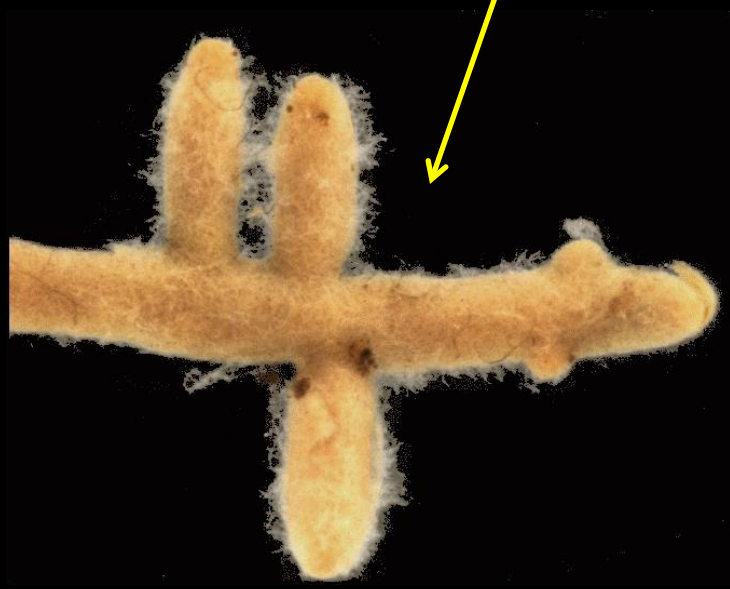
# Fungal Ecology 101: What they are

# Fungal Ecology 101: What they eat

- Mycorrhizal
  Form symbiotic partnership with host trees







# Fungal Ecology 101: What they eat

- Mycorrhizal
- Saprobic
  Produce enzymes that decompose organic material

Brown "cube" rot
Digests cellulose

White rot
Digests lignin

# Fungal Ecology 101: What they eat

- Mycorrhizal
- Saprobic
- Parasitic
  Attack living plants, cause disease or death

*Armillaria* root rot

*Armillaria ostoyae*

# Identifying mushrooms

## Fertile Surface: Form and attachment

Gills

Pores

Teeth

# Identifying mushrooms

## Fertile Surface: Form and attachment

Gills

Pores

Teeth

Free gills

Attached gills

Decurrent gills

# Identifying mushrooms

## Stem: Shape of the base

See the difference?

# Identifying mushrooms

## Stem: Shape of the base

Matsutake
Edible and choice!

Smith's Amanita
Causes kidney failure!

# Identifying mushrooms

## Veil (annulus)

*Agaricus subrutilescens*
Skirt-like veil

*Lepiota rubrotincta*
Ring-like veil

See the difference?

# Identifying mushrooms

## Veil (annulus)

*Agaricus subrutilescens*
Skirt-like veil
Edible and choice!

*Lepiota rubrotincta*
Ring-like veil
Probable liver toxins!

# Identifying mushrooms

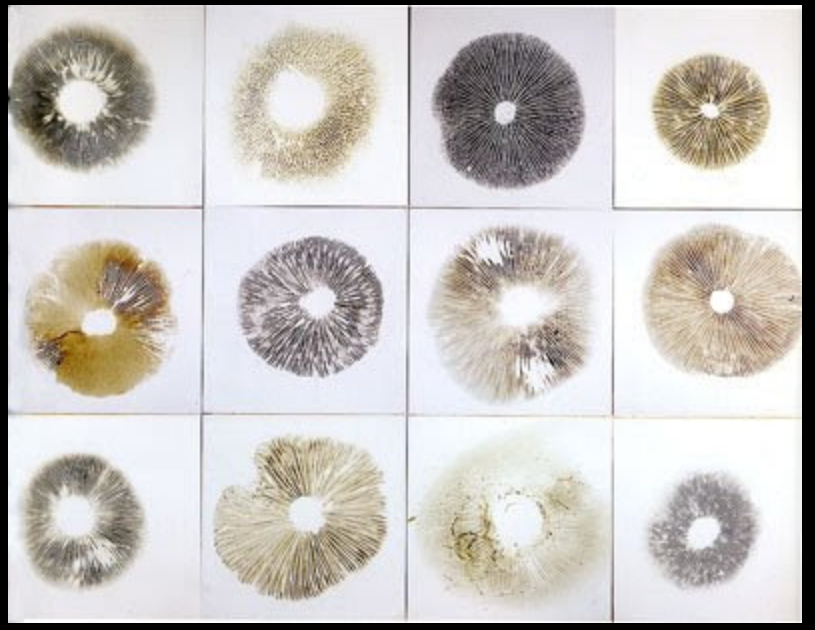
## Habitat & substrate

*Lyophyllum decastes*
Grows in forests, along trails
Edible

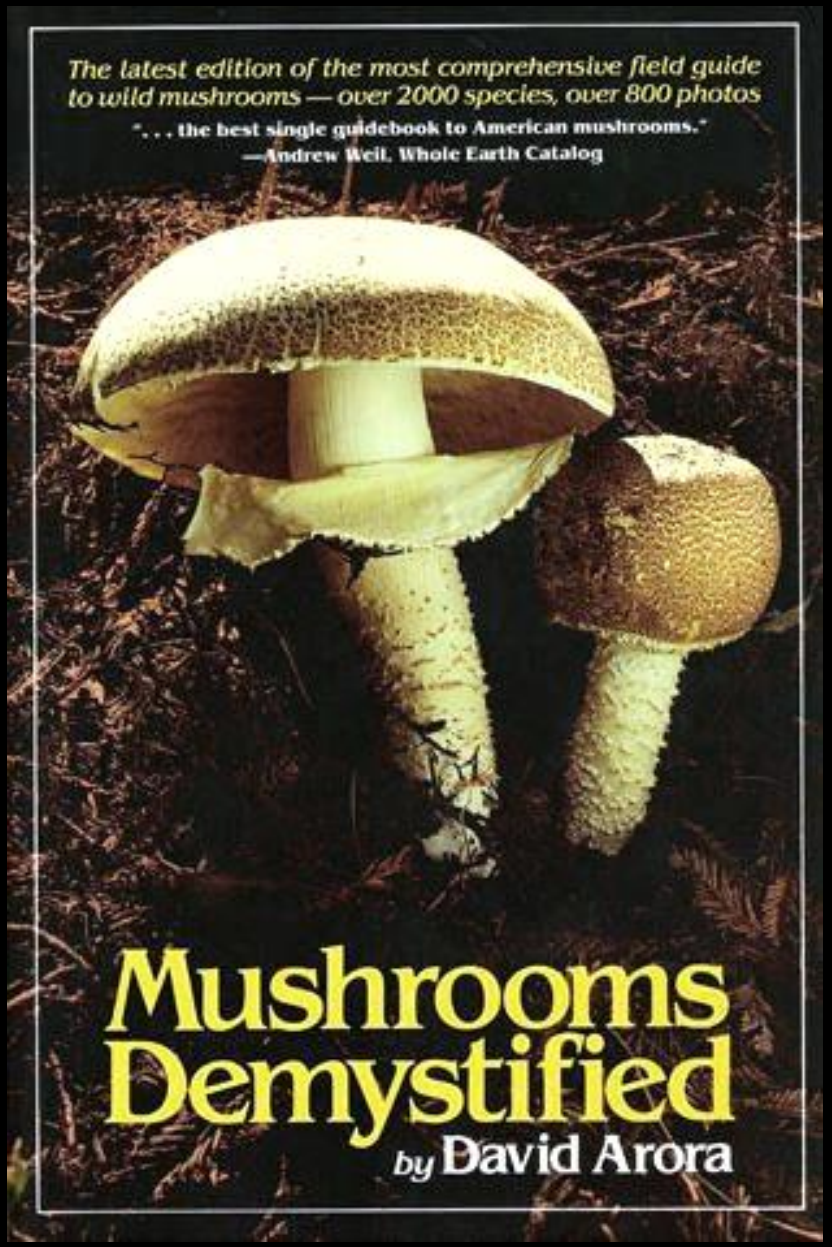
*Clitocybe dealbata*
Grows in grass, lawns
Causes profuse sweating

# Identifying mushrooms

## Spore prints



# Identifying mushrooms



# Identifying mushrooms

Dichotomous keys

1. Spore print brown ……2
1. Spores print white ……5

2. Grows in lawn ……3
2. Grows in forest ……4

3. Has annulus ……*Agaricus*
3. Lacks annulus ……*Inocybe*

4. Has annulus ……*Cortinarius*
4. Lacks annulus ……*Hebeloma*

*5. etc…..*

## Field safety

Always be sure of your ID before eating anything!!!
- "If in doubt, throw it out"

Don't get lost, stay with a buddy
- Carry compass and whistle

Mushroom season is also deer season
- Wear bright colors
- Leave your antler hat at home

Regulations & private property
- Permitting differs from forest to forest
- ORS 164.813 requires written permit from landowner

# Edible Fungi and their Lookalikes

# Golden Chanterelle: *Cantharellus formosus*

Not uncommon to be mutated

- Still good to eat!

## Distinguishing features:

Growing on ground (not wood)
Cap apricot to pale orange, not scaly
Stem thick and solid
Gills blunt and wrinkled, decurrent, slightly paler than cap
Spore print cream to yellowish

# Chanterelle Lookalikes: *Turbinellus (Gomphus) flocossus* "Scaly False Chanterelle"

Causes stomach upset

Distinguishing features:

Terrestrial
Stem solid
Cap reddish to bright orange
Gills blunt and wrinkled, decurrent, much paler than cap
Cap deeply umbilicate (trumpet-like)
Cap with incurved scales
Spore print tan to ochre

# Chanterelle Lookalikes: *Chroogomphus tomentosus* "Pine Spike"

Edible but not incredible

## Distinguishing features:

Texture soft, felty
Gills blade-like, smoky orange, decurrent
Cap orange, minutely fuzzy
Stalk slender, equal
Growing on ground
Spore print smoky olive to black

# Chanterelle Lookalikes: *Hygrophoropsis aurantiaca* "False Chanterelle"

Poisonous

## Distinguishing features:

Small stature

Stem hollow

Gills blade-like, attached to decurrent

Cap some shade of reddish to bright orange, darker in the middle

Growing on decaying wood

Spore print white to cream

# White Chanterelle

## Distinguishing features:

Terrestrial
Cap white to pale cream
Gills blunt and wrinkled, decurrent, white to pale pinkish
Stem solid
Cap not scaly
Spore print cream to yellowish

White Chanterelle Lookalike: *Gomphus kauffmannii*
"Woolly False Chanterelle"

Causes stomach upset

Distinguishing features:

Terrestrial
Cap beige to light brown
Gills blunt and wrinkled, decurrent, pallid white
Stem solid
Cap with incurved scales
Spore print tan to ochre

# Lobster Mushroom: *Russula brevipes* parasitized by *Hypomyces lactifluorum*

## Distinguishing features:

Entire mushroom lobster orange
Generally firm texture, but often with lots of punky areas – trim liberally!
Gills fused together, only visible as faint radiating ridges on underside of cap
Often mostly buried

Nothing else looks like it!

# Matsutake: *Tricholoma magnivelare*

## Distinguishing features:

Stem equal or tapered at base
Odor distinctive, of cinnamon and dirty socks
Cap white with orangish-reddish fibrils or discoloration, firm in texture
Tissue fibrous, like string cheese
Veil can disappear with age

# Matsutake Lookalike: *Catathelasma imperialis*

## Edible

## Distinguishing features:

Flesh very firm, almost woody
Odor farinaceous
Gills slightly decurrent
Stem tapered at base
Can get very large

# Matsutake Lookalikes: *Amanita silvicola & A. smithiana*

*A. silvicola*

*A. smithiana*

## Distinguishing features:

<u>Stem bulbous at base</u>
Odor merely fungal or musty
Cap often has soft, felty texture

## Both poisonous!

If the base of the stem is not present, be very cautious!!!

# King Bolete: *Boletus edulis*

Reticulate stem apex

## Distinguishing features:

Cap pale to orangish brown
Pores fine, 2-5 per mm
Apex of stem with reticulate pattern
Can get large, but are usually buggy by then
Pore surface white to pale yellow, not staining

# King Bolete Lookalikes: Any number of other *Boletes*


*Boletus satanas*

## Distinguishing features:

If any part of it stains blue when bruised, OR
If the apex of stem lacks a reticulate pattern, OR
If the pore surface or stem have any reddish tints, OR
If the pores are larger (>1 mm), then…

TOSS IT!

# King Bolete Lookalikes: *Suillus*


*Suillus brevipes*

## Distinguishing features:

Pores larger (1-3 mm), often radially arranged
Cap surface frequently slimy

"Slippery Jack" - edible but squishy

# *Lactarius rubrilacteus & L. deliciosus*

## Distinguishing features:

Cap and stem orange, cap often with concentric rings
Cap and gills often staining green
Cap latex and flesh red (*L. rubrilacteus*) to orange (*L. deliciosus*) on inside
Stem hollow, brittle
Mild taste

# *Lactarius deliciosus* Lookalikes: *Lactarius rufus, L. riparius*

## Distinguishing features:

Cap and stem orange to pinkish, not staining green
Cap flesh NOT red to orange on inside
Latex white to yellow
Strong peppery taste

# Oyster Mushroom: *Pleurotus ostreatus*

## Distinguishing features:

Growing shelflike on decaying wood, often alder
White cap
White decurrent gills and spore print

# Oyster Mushroom Lookalike: *Panus rudis*

## Distinguishing features:

Growing shelflike on decaying wood, usually conifer
Beige to brown cap
Brown gills and spore print

Neither edible nor poisonous

# Hedgehog: *Hydnum repandum* & *H. umbilicatum*

## Distinguishing features:

Apricot to cream-orange cap
Teeth under cap cream to pale orange, soft
Texture brittle, not fibrous or woody
*H. umbilicatum* is smaller, cap has belly button

No serious lookalikes; *Hydnellum* are large, tough, and woody, with dark teeth

# Lobster Mushroom: *Russula brevipes* parasitized by *Hypomyces lactifluorum*

## Distinguishing features:

Entire mushroom lobster orange
Generally firm texture, but often with lots of punky areas – trim liberally!
Gills fused together, only visible as faint radiating ridges on underside of cap
Often mostly buried

Nothing else looks like it!

# Sulphur Shelf: *Laetiporus coniferarum*

## Distinguishing features:

Usually growing on old-growth stumps or downed logs
Bright orange top surface, sulphur-yellow underside
Fresh growing edge is the most tender and tasty
Also called "Chicken of the woods"
No serious lookalikes!

# Cauliflower Mushroom: *Sparassis radicata*

## Distinguishing features:

Usually growing on ground
Fruiting body of thin ribbonlike folds
Can get very large, to 40 lbs!

No serious lookalikes!

# Questions?

Let's go find some mushrooms!