OMS MOTM, August 2018

Mushroom of the Month

Hydnum (in the Pacific Northwest)

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Why?

- Easy to recognize
- Good to excellent edible
- Bug and mold resistant
- No poisonous look-alikes (in the PNW)
- Wide distribution
- Fall (mostly) and Spring
- Good for beginners
- with enough to interest everyone

PNW guides list two types

- Larger: *Hydnum repandum*
  Up to 15 cm (6 inches) or more
- Smaller: *Hydnum umbilicatum*
  < 5 cm (2 inches)

H. repandum top

- Like a chanterelle
- Cap cream to orange brown
- Stem like chanterelle

H. repandum - bottom

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H. umbilicatum

- Smaller
- Slimmer stem
- Often with bellybutton (= *umbilicatum*)

H. repandum vs *umbilicatum*

Look alikes? -- *Hydnellum aurantiacum*

- Stemmed
- Light brown cap
- White teeth on bottom

But:
Tough, thick
Different stem & profile

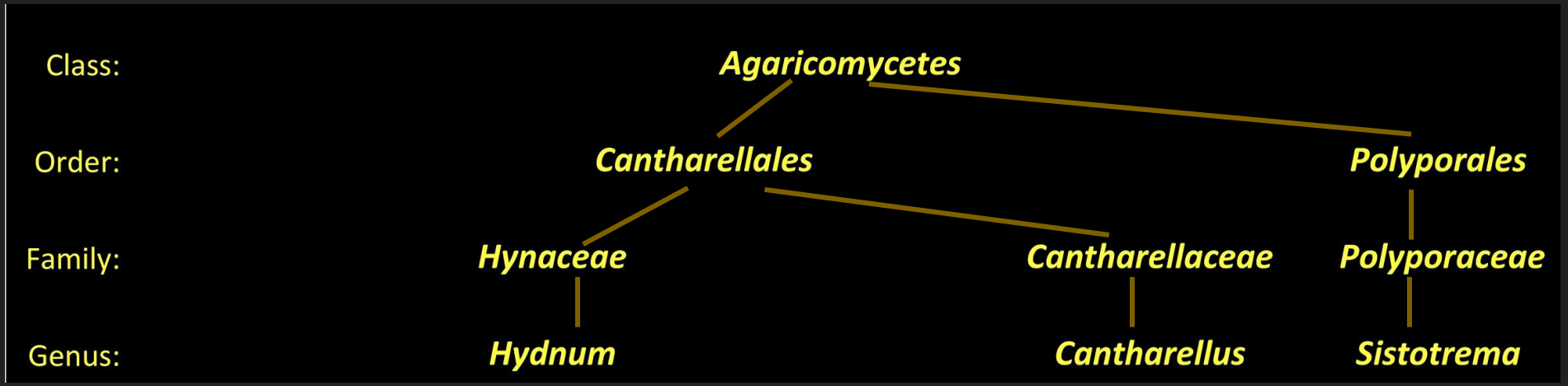
Look alikes? -- *Cantharellus ssp.*

Look alikes? -- *Sisotrema confluens*

Which of these things is more like the other?

Cantharellus vs Sistroema confluens vs Hydnum

Partial Phylogenetic Tree



Ecology

- Now that we can ID it, where should we look?
- Ectomycorrhizal (symbiotic with trees)
- On ground
- Associates (in PNW): Conifers, including Pine, Hemlock, Spruce, Douglas-fir
- Summit to Sea
- Similar to chanterelle

We live in interesting times

New, comprehensive study

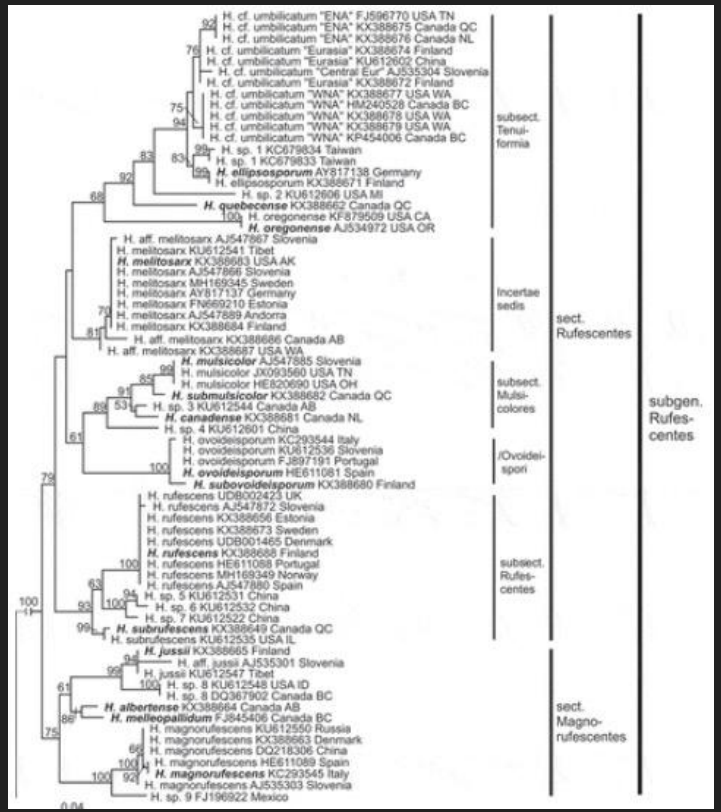
Identifying and naming the currently known diversity of the genus Hydnum with an emphasis on European and North American taxa

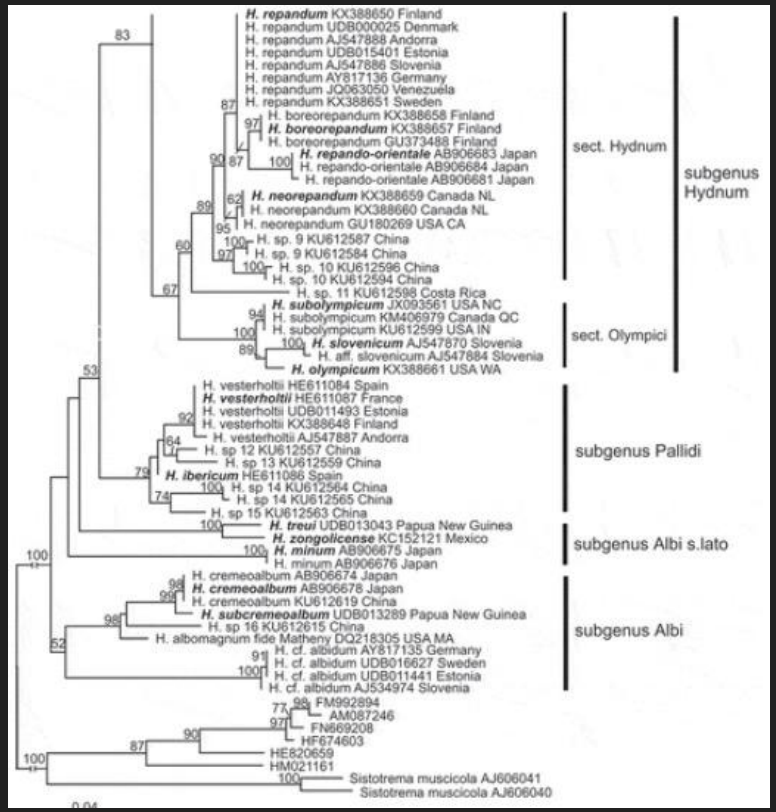
Tuula Niskanen, Kare Liimatainen, Jorinde Nuytinck, Paul Kirk, Ibai Olariaga Ibarguren, Roberto Garibay-Orijel, Lorelei Norvell, Seppo Huhtinen, Ilkka Kytövuori, Juhani Ruotsalainen, Tuomo Niemelä, Joseph F. Ammirati & Leho Tedersoo

Lorelei Norvell

Joe Ammirati

Extensive DNA Analysis





Some Findings

- More species
  12 before
  49 after (per DNA, 22 with descriptions)
- Differences between species can be subtle
  E.g., spore size
- Distribution restricted at a global scale
  Only 2 both Old & New World

Distribution of PNW Species

Localized distribution

- *Hydnum repandum* is a European species

Hydnum repandum

Hydnum ~~repandum~~

Hydnum neorepandum

PNW Species

Hydnum neorepandum
Hydnum umbilicatum complex
Hydnum olympicum
Hydnum subolympicum
Hydnum melleopallidum

Hydnum oregonense

- Good name
- Type (defining specimen)
  ~10 miles from Mary's Peak
- By Lorelei Norvell

Hydnum oregonense

- Fall & spring
- Closest PNW relative: *H. umbilicatum*
- “Easily distinguished” from *H. umbilicatum*
  - Spores 9.5 × 9.0 μm (*oregonense*)
  - vs 8.4 × 8.0 μm (*umbilicatum*)
  - 1/50 width of human hair

Summary

New study gives a rich, more complicated picture.
But no matter what you call them, *Hydnum*:

- Good edible,
- Easy to recognize

References, Credits

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Niskanen et al. (2018): Identifying and naming the currently known diversity of the genus *Hydnum* with an emphasis on European and North American taxa, *Mycologia*, DOI: 10.1080/00275514.2018.1477004

Norvell, PNWMS Technical Report: 1998–2005 Green Peak Density Management Fungal Community Study: 2017 updated summary (pdf available on ResearchGate)

Siegel & Schwarz, Mushrooms of the Redwood Coast (Ten Speed Press 2016) (http://www.redwoodcoastmushrooms.org)

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Questions?

Thanks for listening!