**Strophariaceae** – Habit variable from pleurotoid, mycenoid to tricholomatoid; veil in most cases present; spore print pale to dark brown, purple brown or violaceous brown to almost black; spores usually with distinct large germ pore; chrysocystidia often present; gills attached, pileipellis a cutis or ixocutis (a gelatinized cutis). The borders between the genera in this family are not sharp, and several species have been shuffled back and forth between genera.

Two genus groups can be recognized, one with purple brown, violaceous brown to almost black spores (*Hypholoma*, *Psilocybe*, and *Stropharia*) and the other with brown spores (*Pholiota*).

**Hypholoma** (*Naematoloma* in Arora) –

- **Habit**: medium-sized mushroom in big clusters or solitary to gregarious and terrestrial, gill yellow-green, yellowish, olive or grey when young, pileus usually convex and often yellowish, reddish or orangish. Partial veil usually present but disappearing in age

- **Ecology**: on wood (or ground right next to wood)

- **Microscopic**: *chrysocystidia* present, spores smooth with apical germ pore, dark brown to blackish. **hyphae just below surface of pileopellis inflated.**

- **Common or distinctive species**:

  - *Hypholoma fasiculare* - the sulfur tuft, bright yellow clustered mushrooms with **greenish gills** on wood. bitter taste and poisonous.

  - *H. capnoides* - similar to fasiculare but less yellow (more reddish), with **gray gills**, and no bitter taste. Supposedly restricted to conifer logs

**Stropharia**

- **Habit**: medium-sized, often brightly colored, but sometimes white, **usually annulate, stipe often strigose with a rooting base** (according to Largent and Baroni)

- **Ecology**: Saprotrophic on wood chips, dung, or terrestrial

- **Microscopic features**: **dark smooth spores** with a germ pore dark **purplish gray, or purplish brown spore deposit**; chrysocystidia usually present, pileopellis lacking swollen cells below the epidermal layer (see *Hypholoma* above)

- **Common or distinctive species**

  - *Stropharia ambigua* is our most common species, but is not particularly typical of the genus is someways. It’s very large and white with veil remnants of on the margin (the image from Mykoweb is way too yellow).

  - *S. semiglobata* – a small hemispherical species common on dung

  - *S. aurantiaca* - our bright reddish orange species on woodchips, an import from Australia?

**Psilocybe**

- **Habit**: small LBMs with convex or companulate pileus, often umbonate, gill edges often white from cheilocystidia

- **Ecology**: common on dung, also found in grass and occasionally on wood
Microscopic features - spore print purplish brown or dark brown, spores smooth with a germ pore. **yellow brown to reddish or olive brown in KOH.** no chrysocystidia

Common or distinctive species
There are two groups within *Psilocybe*, one with the hallucinogenic compounds, and one without. The hallucinogenic ones bruise blue. Our most common species keys to *Psilocybe cyanescens* in Arora, but according to Else Vellinga we have two similar species *P. cyanofibrillosa*, which has a flat wavy pileus at maturity, and *P. cyanescens* that lacks the wavy margin.

*Psilocybin* and its derivate psilocin – present in several *Psilocybe* species, and many other species in different taxonomic groups. Baeocystin, a precursor of psilocybin is found in several *Psilocybe and Inocybe* species. Psilocybin has the same effects as LSD. Oxydation turns psilocin into a blue pigment, which is an indicator for the presence of psilocybin; though not all blue colours are oxydized psilocin.

**Pholiota** –

Habit - moderate to large-sized mushrooms, usually clustered (caespitose) on wood. Pileus often scaly or alternatively smooth and glutinous, margin of pileus often fibrillose appendiculate.

Ecology - almost all wood rotting

Microscopic features - spores rusty to dull brown, smooth with a germ pore, cystidia present or absent, sometimes with chrysocystidia.

Common or distinctive species
*Pholiota terrestris* - an atypically terrestrial species, that otherwise is a scaly pholiota

*P. squarrosa* is probably a complex of scaly species on wood

*Pholiota velaglutinosa* is a slimy brightly colored species common on conifer woods (keys to the *P. lubrica* gr in Arora)

*P. malicola* gr. - Yellowish to rusty tawny species - could be confused with *Hypholoma* or *Gymnopilus*.

cortinariaceae – this is the equivalent of the tricholomataceae for the dark spored species. If it's not pulled out in the Agaricaceae, Stophariaceae, Gomphidiaceae, coprinaceae, Bolbitaceae, it's tossed into the cortinariaceae. Habit variable from pleurotoid, mycenoid to tricholomatoid with wide marginate base; veils often present, partial veil often in the form of a cortina (spiderweb threads between the pileus margin and the stipe); spore print brown, in different tinges, but not dark (chocolate) brown; spores often rough, in most genera without a germ pore. Many genera and species ectomycorrhizal, but not all of them.
**Cortinarius** - a hugh, common, easily recognized genus with way too many species (>900)

**Habit:** small to big, very often brown, but also bright yellow, blue-purple or lilac pileus, or intense yellow to red lamellae; surfaces dry or slimy; **cortina present (cobwebby veil)**

**Ecology:** all mycorrhizal

**Microscopic features:** spore print (dull) rusty brown, and spores rough.

**Common species:** The genus has been divided into several subgenera of which the most *Cortinarius* (one species, *C. violaceus*, with dark violaceous colours and a dry textured pileus, beautiful species);

*Myxacium* (with slimy pileus and stipe; *C. vanduzerensis* is a beautiful example);

*Bulbopodium* (with slimy pileus, bulbous base),

*Phlegmacium* (with slimy pileus, bright colours present);

*Dermocybe* (with bright yellow to bright red lamellae, and a dry, non-hygrophanous pileus; anthraquinones present; *C. phoeniceus* is common),

*Telamonia* with dry, hygrophanous pileus; many little brown species, nearly impossible to identify.

**Orellanin** – present in several species of *Cortinarius* (*C. orellanus, C. speciosissimus*), causes, after several days (2-17 days) kidney failures, which can lead to death. Haemodialysis, or a kidney transplant are the therapy.

**Hebeloma** – moderate to large whitish tricholomoid mushrooms with pruinose stipe apex

**Habit:** moderate-sized Tricholmatoid mushrooms, often buff colored, upper **stipe often with prominent cystidia at apex (pruinose, furfuraceous), odors common (radish), pileus usually viscid, gill margins often white, gill face cocoa brown, veil can be a cortina**

**Ecology:** all mycorrhizal

**Microscopic features:** spore print dingy brown, **spores roughened, cheilocystidia abundant.**

**Common species:** Our species are not well sorted out, but our most common whitish, radish smelling one, is usually called *H. crustuliniforme*, like most other species in the genus is poisonous.

**Inocybe** - an easy genus recognize, but most species are difficult to identify; Smell is often characteristic. Presence or absence of cystidia on the stipe is an important character for identification.
Habit: Rather small fruitbodies, with a dry (in most cases), fibrillose, often umbonate-conical pileus; lamellae often pale brown.

Ecology: mycorhizal

Microscopic features: spore print yellow-brown, smooth (i.e. not warty), but in many species knobby. Most species with conspicuous, thick-walled cystidia, with calcium oxalate crystals on top;

Common species: *I. sororia* – a large species that smells like green corn, *I. geophyllum* – a small pure white species; *I. lilicina* – a lovely lavender species sometimes recognized as a subspecies of *I. geophyllum*

Muscarin and/or psilocybin (or baecystin) present in several species. A separate family Inocybaceae has been proposed for this genus. And the genus can be subdivided in 5 clades, which will be separate genera.

**Galerina** - a large genus of generally overlooked little LBMs, common on moss.; cheilocystidia are important characters for species identification.

Habit: Small mycenoid fruitbodies often with a translucent striate pileus margin, typical little brown mushrooms,

Ecology: Saprotrophic, terrestrial, often among moss, some species on wood.

Microscopic features: spores rusty brown, often rough with a plage (an area which is smooth above the hilar appendage, on the ventral side of the spores); cheilocystidia present and usually fusoid-ventricose capitulate.

Common species: *G. autumalis* is a common species on wood, and it is deadly poisonous. Species in **Galerina** section **Naucoriopsis** contain amatoxins.

**Tubaria** – a very common genus of small LMBs most cinnamon or reddish brown

Habit: small collybioid LBMs
Ecology: saprobes, often on litter or wood.
Microscopic features: spores yellowish brown or cinnamon, smooth elliptical, lemon-shaped, or bean-shaped. Cheilocystidia present
Common species: *Tubaria furfuracea*

**Crepidotus** – small brown-spored, pleurotoid mushrooms, on wood – usually put in its own family Crepidotaceae

Habit: sessile or with a very short stipe on wood
Ecology: saprobes
Microscopic features: dull brown spores, either smooth or finely punctate, various shapes
Common species: C. mollis – a small whitish or yellowish species with fine fibrillose scales.

Gymnopilus – moderate to large mushrooms on wood, usually with yellow and yellow-brown tones, like tricholomopsis in habit, usually bitter tasting. Surface of pileus blackens with KOH, could be confused with Pholiota (at least until you look at the spores).

Habit: curved, annulate, stipes; on wood with planar pilei,

Ecology: on wood or more rarely terrestrial

Microscopic features: bright rusty spores that are finely ornamented with bumps or ridges.

Common species: G. spectabilis – a giant species that is fairly common on conifer wood. G. sapineus – a small yellowish species common on wood.

Phaeocollybia - Fruitbodies medium to tall, with long ‘taproot’, pileus conical and slimy

Habit: unique, the “collybia” in the name probably refers to rooting white-spored species that used to be placed in that genus.

Ecology: thought to be saprobic

Microscopic features: rusty brown warty spores with a snout-like apical extension.

Common species:

References

• For identification literature see Dennis Desjardin’s big literature overview at http://www.mykoweb.com/misc/Agaricales_References.pdf


• Some selected literature references on Cortinariaceae and Strophariaceae:


