Selected Common Genera in the Tricholomataceae

N.B. The total number of Californian genera in this group, as defined in the sense of Arora (1986), is around 80

Overview of "habit" types

*Cystoderma* - c. 6 species in California -
  Habit: resembling *Lepiota* species, but totally **covered in a granulose veil**, pileus umbonate
  Ecology: saprotrophic and terrestrial
  Microscopic: Pileipellis an epithelium
  Common or distinctive species: *C. fallax*

*Tricholoma* –
  Habit: medium to large tricholomatoid, lamellae sinuate or annexed,
  Ecology: ectomycorrhizal
  Microscopic features pretty non-descript: spores smooth, non-amyloid; cystidia usually absent; pileipellis a cutis.
  Species in California - some species cause severe gastrointestinal problems, some are prize edibles, many with distinctive smells or tastes.

*Tricholomopsis* – a small but distinctive genus in California
  Habit - Tricholomatoid with the thinner often curved stipe, **pileus scaly** in our species and often brightly colored.
  Ecology: on wood
  Microscopic: Cheilocystidia large and conspicuous
  Common/distinctive species: *T. rutilans*

*Leucopaxillus* –
  two very common species in California
  habit: medium to large tricholomatoid, often fairly tough, taste or smell often unpleasant, mycelial mat at base of stipe.
  Ecology: Saprobiic
  Microscopic: spores amyloid and roughened, clamp connections present.
  Common/distinctive species: *L. albissimus*, *L. gentianeus* (amarus in book)

*Armillaria* – NB: this is *Armillariella* in Arora’s book - c. 10 species in North America - tree
  habit: tricholomatoid but with relatively long thin stipe, **annulus present** in most species; pileus usually with small brownish scales, **mushrooms often in (huge) clusters**.
  Ecology: Saprobes and tree parasites, causing white rot, with rhizomorphs under the bark of trees
Microscopic: nothing distinctive
Common/distinctive species - no species are readily identified by morphology alone. All will key out to *A. mellea* group. We have 3 in California: *A. mellea* (common on campus, a real parasite), *A. gallica* (common in forests, no tree disease associated), *A. nabsnona* - found with alder on the coast. This group is edible if cooked, but they are not special.

**Clitocybe** -
Habit: omphaloid, with decurrent lamellae. Difficult genus, but a few species are distinctive.
Ecology: saprobes and a few mycorrhizas
Microscopic: nothing special, *Lepista*, a segregate genus, has minutely ornamented pinkish spores.
Common or distinctive species: *C. odora*, *C. (Lepista) nuda* - large purplish species, *C. nebularis*, *Omphalotus olivascens*

**Mycena** - c. 60 species in California –
Habit: habit mycenoid (often Bell-shaped), small fruitbodies in big groups, flimsy translucent stipes
Ecology: saprobes mostly on leaf litter and twigs, a few on wood.
Microscopic: often with cheilocystidia. Pileipellis with a layer of inflated cells below the surface
Common or distinctive species: *M. haematopus*, *M. galericulata*, *M. pura*

**Marasmius**
Habit: small collybioid with a tough often wire-like stipe, “mushrooms reviving when wet”, pileus often sucate or wrinkled.
Ecology: saprotrophic on plant material
Microscopic: pileipellis often hymeniform or with “broom cells”
Common or distinctive species: *Marasmius oreades* (fairy ring), *M. plicatulus*, *M. quercophilus*, *Micromphale sequoiae*

**Collybia** 50 species in California - (all common species now in *Gymnopus* or *Rhodocollybia*).
Habit: collybioid, small to medium-sized, often with a tough stipe, cap margin inrolled at first, gills adnate or annexed
Ecology: saprotrophic on plant material
Microscopic: spore white or pinkish (*Rhodocollybia*) variously shaped but not, pileipellis usually a cutis, cystidia usually absent. Common or distinctive species: *Gymnopus dryophilus* gr., *G. villosipes*, *Rhodocollybia butyracea*

**Melanoleuca**
Habit: medium-sized collybioid with very crowded gills, stipe narrow, equal, longitudinally striate
Ecology: saprobic usually on ground
Microscopic: Spores warty amyloid, no clamp connections, often with encrusted cystidia.
Common or distinctive species: *M. melaleuca*.

**Laccaria** - 4 common species in California - ectomycorrhizal
Habit: collybioid, fibrous stipe, *lamellae thick and pinkish or violet*, basidiocarps red-brown or amethyst;
Ecology: mycorrhizal, especially common with young trees
Microscopic: spores spiny
Common or distinctive species: habit
Common/distinctive species: *L. amethysteo-occidentalis* our purplish species, that turns brown in age. *L. fraterna, L. laccata, L bicolor, L proxima*

**Pleurotus** and *Hohenbuehelia* -
Habit: pleurotoid
Ecology: saprotrophic, parasitic, growing on wood, rarely on soil, nematode trapping
Microscopic: *Hohenbuehelia* has thick-walled cystidia (*Lamprocystidia*).
Common or distinctive species: *Pleurotus ostreatus* gr. *H. petaloides*.

For an overview of identification literature for California gilled mushrooms, alphabetically per genus: see http://www.mykoweb.com/misc/Agaricales_References.pdf

For some modern views on the classification of these fungi see: