Basidiomycota Taxonomy
Sporocarp diversity
Using taxonomic keys in Arora

- Morphology of fruiting body?
- Morphology of fertile surface?
- Where does it fruit?
  - Ecologically, Geographically
- Spore print color, gill attachment, veil tissue
- Smell, taste
Gross morphology (Arora, p.52)

- Mushroom
- Shelf fungi
- Club fungi
- Coral fungi
- Crust fungi
- Gasteromycetes
- Jelly fungi
“Mushroom”

Stipitate sporocarp with a cap
– Fertile tissue elevated by a stipe
– Fertile tissue with gills, pores, or teeth
– Cap, pileus
“Mushroom” with gills

Russula
Boletes

“Mushroom” with pores or tubes

Boletus
“Mushroom” with teeth

Hydnum
“Shelf fungi”

Laterally attached to substrate

Pleurotus

Fomitopsis
“Club” - Hymenium with indistinct gills or ridges

Clavariadelphus  

Gomphus
“Coral”

Single to many fertile branches

Ramaria
“Crust fungi”

Resupinate = lying flat on substrate; without a stalk or well-defined cap

*Phanerochaete*
“Gasteromycetes”

• “stomach fungus”
• Fertile surface (= gleba) not exposed to environment
“Jelly fungi”

Gelatinous sporocarps

*Dacrymyces*
Agaricales sensu lato
(gilled mushroom) taxonomy

Macroscopic characters (Arora, p.17)

- Shape of the cap
- Attachment of the gills to the stalk
- Shape of the stalk
- Position of the stalk
- Spore print
- use the glossary !!!!!!
SHAPE OF THE CAP
- cylindrical
- conical
- bell-shaped
- umbonate
- convex

- plane
- uplifted
- umbilicate
- depressed
- funnel-shaped

ATTACHMENT OF THE GILLS TO THE STALK (as seen in longitudinal section)
- free (not attached)
- adnexe (narrowly attached)
- sinuate (notched)
- adnate (broadly attached)
- decurrent (running down the stalk)

SHAPE OF THE STALK
- tapering downward
- equal
- tapering upward
- enlarged below (club-shaped)
- bulbous

POSITION OF THE STALK
- central
- off-center (eccentric)
- lateral
- absent (sessile)
3 major characters for families of gilled mushrooms

- Spore color
- Gill attachment
- Veil
Spore color

Light spore print
white, yellow, pink, lilac

Dark spore print
black, purple, brown, red, rust, green

www.nifg.org.uk/recording_tips.htm#HOW%20TO%20TAKE%20A%20SPORE%20PRINT
Observing spore color without spore print

Gill color
Cap
Stalk (veil)
Gill attachment - free

Amanita

Pluteus
Gill attachment - decurrent

Clitocybe
Gill attachment - adnate to adnex

Russula
Veil tissues

Universal

Partial

None
Amanita

Partial veil & universal veil
Partial veil

Agaricus
Veil remnants on margin of cap
## Gilled Fungi

<table>
<thead>
<tr>
<th>Light-spored</th>
<th>Dark-spored</th>
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</thead>
<tbody>
<tr>
<td>Amanitaceae</td>
<td>Agaricaceae</td>
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<tr>
<td>Hygrophoraceae</td>
<td>Coprinaceae</td>
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<tr>
<td>Lepiotaceae</td>
<td>Cortinariaceae</td>
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<td>Cantharellaceae</td>
<td>Gomphidiaceae</td>
</tr>
<tr>
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<td>Paxillaceae</td>
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</tbody>
</table>
Nomenclature

Kingdom - *Fungi*
Subkingdom - *Dikarya*
Phylum - *Basidiomycota*
Subphylum - *Agaricomycôtina*
Class - *Agaricomycêtes*
Subclass - *Agaricomycetëidae*
Order - *Agaricêales*
Family - *Amanitaçaeae*
Genus - *Amanita*
Species - *A. muscaria*

Index Fungorum - [http://www.speciesfungorum.org/Names/Names.asp](http://www.speciesfungorum.org/Names/Names.asp)