

Fungi



Kingdom: Fungi

- Eukaryotic
- Multicellular (most) with limited differentiation
- Chitinous cell walls
- ~100,000 named species
 - ~ a third with unclear taxonomy
- Heterotrophic with external digestion
- Haploid life history

Kingdom: Fungi

Fungal **mycelium** (body) is comprised of many **hyphae** (tubular filaments)

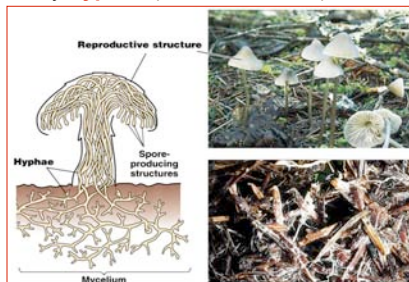
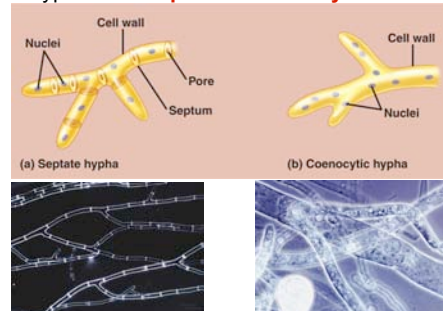


Fig. 31.2

Kingdom: Fungi

Hyphae are **septate** or **coenocytic**



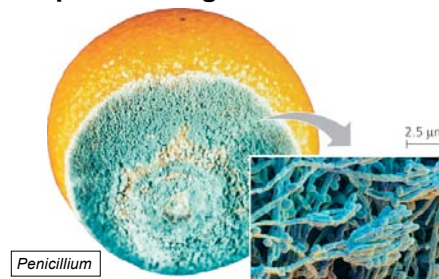
Kingdom: Fungi

Heterotrophic

- Absorb nutrients from environment
- Secrete exoenzymes for external digestion
- Most are **saprobic**
 - Major decomposers
- Many are **parasitic**
- Many are **mutualistic symbionts**
- Some are **predatory!**

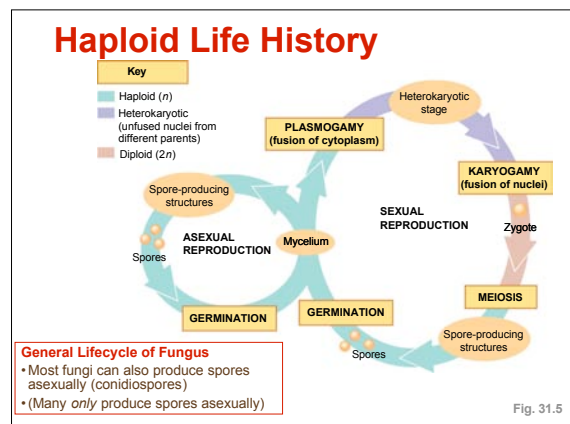
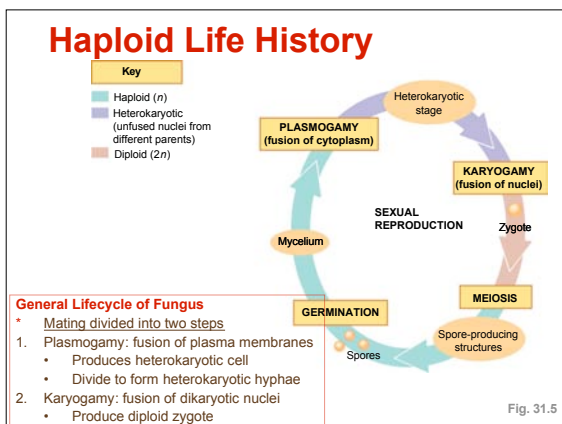
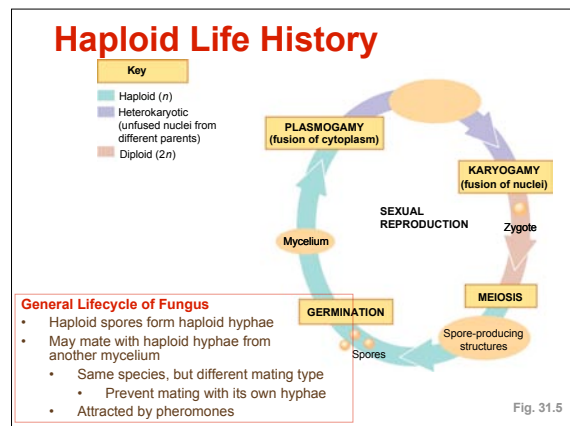
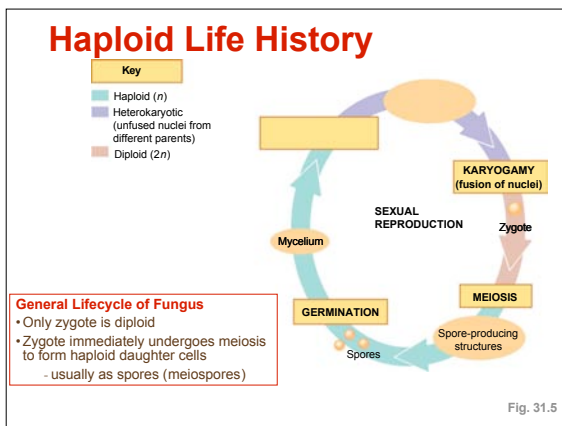
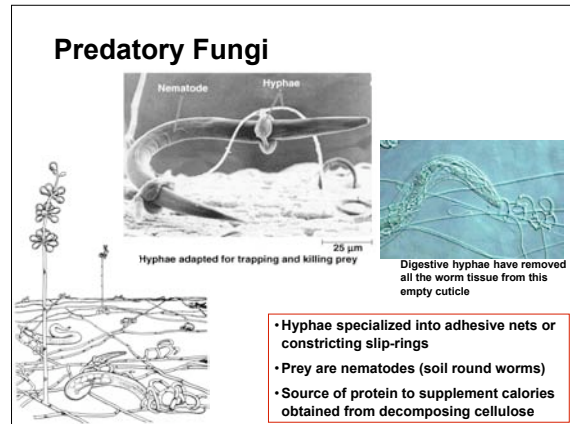
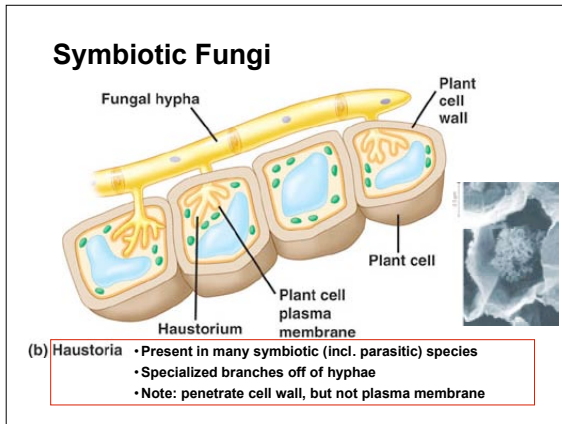


Saprobic Fungi



- Hyphae penetrate soil or decaying tissues
- Erect sporangia to disperse spores

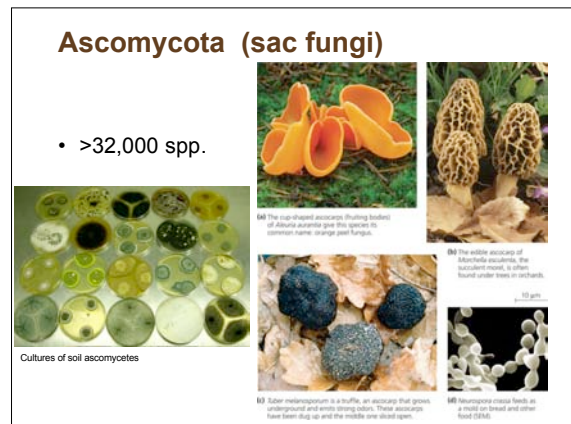
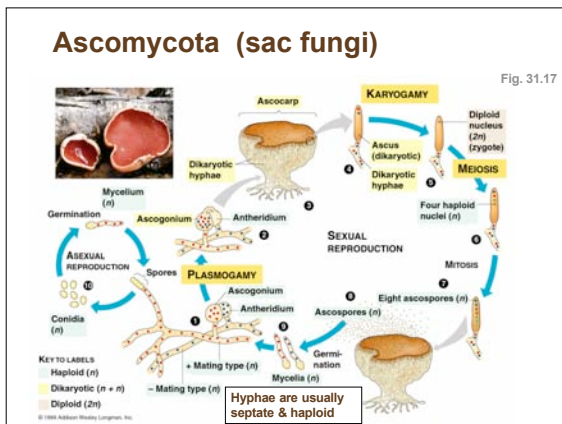
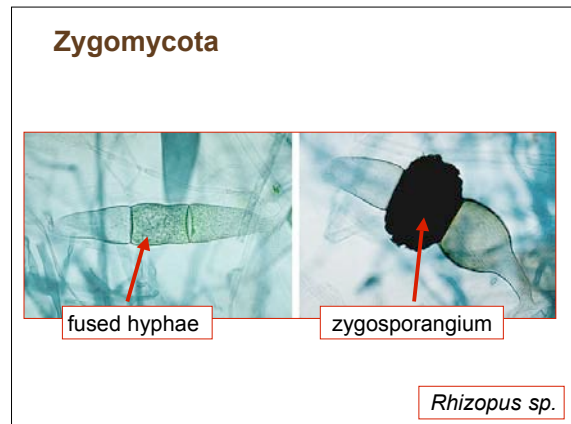
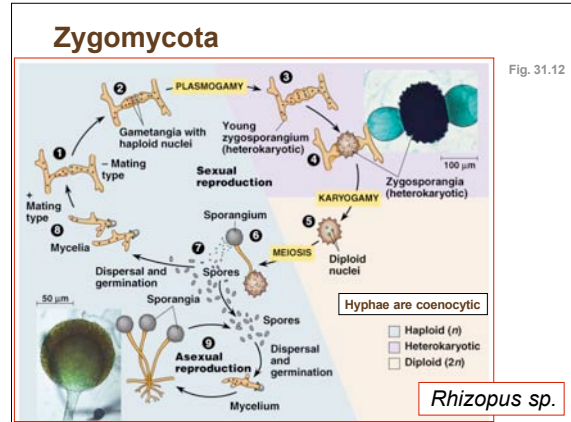
Fungi



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Fungal Phyla

Phylum	Distinguishing Feature
Chytridiomycota (chytrids)	Mobile spores with flagella
Zygomycota	Resistant zygosporangium as sexual stage
Glomeromycota	Arbuscular mycorrhizae
Ascomycota (sac fungi)	Sexual spores borne internally in sacs called asci
Basidiomycota (club fungi)	Elaborate fruiting body called basidiocarp



Ecological Importance

Cause of disease: Athlete's Foot






Image Courtesy of M. McGivern
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Ecological Importance

Cause of disease: Ergots





Rye

Ergot



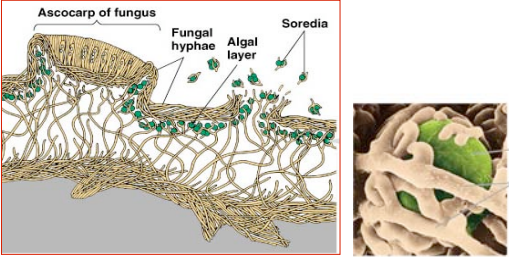
Ecological Importance

Symbiotic relationships: lichens



Ecological Importance

Symbiotic relationships: lichens



Ascocarp of fungus

Fungal hyphae


Algal layer

Soredia

Algal cell




Fungal hyphae

10 µm



Ecological Importance

Symbiotic relationships: mycorrhizae



Human Uses

- Food
- Food Processing
- Medicinal

