

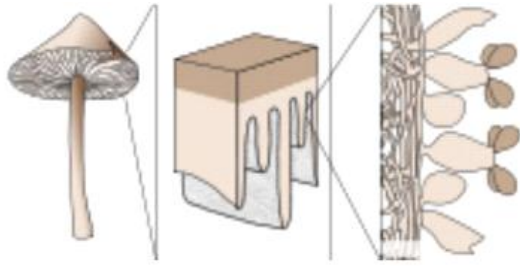
M04 L2 Fungi Classification

Thursday, March 05, 2009
11:27 AM

About 20 min lecture

VoiceThread	http://voicethread.com/share/208682/
Cmap	http://cmapspublic2.ihmc.us/rid=1210771614201_1059278962_31593/Kingdom%20Fungi.cmap

Slides	Notes
<div> </div> <div> <h2>Module 04: Kingdom Fungi</h2> </div> <div> <p>Lecture 1: General Discussion of Fungi</p> </div> <div> <p>👉 Lecture 2: Classification in Kingdom Fungi</p> </div> <div> <p>Lab Day</p> </div> <div> <p>Interactive Practice</p> </div>	
<div> <p>The key is spores (sexual mode of reproduction)</p> </div> <div> <p>Phylum Amastigomycota (non-motile spores)</p> </div> <div> </div> <div> <p>Phylum Mastimycota (motile spores)</p> </div> <div> <p>"Imperfect Fungi" (holding area)</p> </div> <div> <p>Phylum Myxomycota (protazoa or fungi?)</p> </div>	<p>These are the 4 phylum we will learn about. The key to the phylum is how they sexually reproduce.</p>
<div> <h2>Phylum Asmastigomycota</h2> </div> <div> <p>👉 Class Basidiomycetes: The Mushrooms</p> </div> <div> <p>Class Ascomycetes: The Sac Fungus</p> </div> <div> <p>Class Zygomycetes: The Bread Molds</p> </div>	<p>We will go a little deeper than phylum for this group and look at the class level.</p>

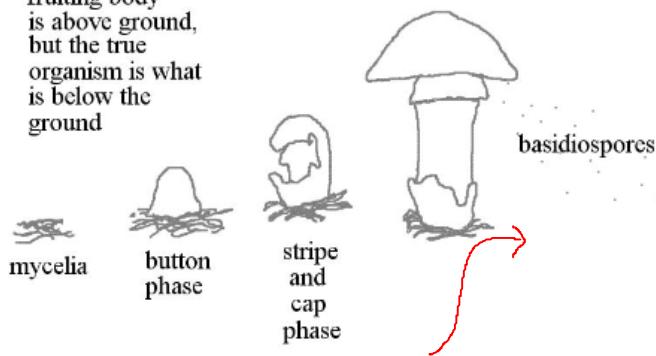


Members of class Basidiomycetes form 4 spores (called basidiospores) on club-shaped cells known as basidia.

These spores are the result of sexual reproduction between mycelia.

Mushroom sexual reproduction

fruiting body is above ground, but the true organism is what is below the ground

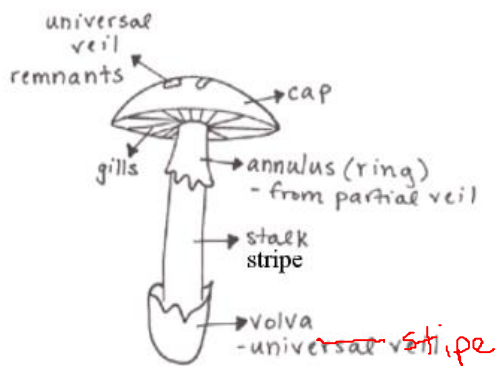


Correction - stipe, not stripe

Spore Prints



Just lay the mushrooms gill side down on paper for a day or two to make these.



They only need to know stipe, cap, gill, and mycelium.

Fairy Ring Mushrooms



The rings expand as the mushrooms consume the matter in the middle and reproduce outward.

Biggest Puff ball ever!



<http://www.youtube.com/watch?v=EF65xGRNfwo&feature=related>

<http://viewpure.com/EF65xGRNfwo>

Here is another one that lets you see one more close up ...

<http://www.youtube.com/watch?v=FF8cZoX7Xlo&noredirect=1>

<http://www.youtube.com/watch?v=EF65xGRNfwo&feature=related>

Shelf Fungus



Rust Fungus



Parasitcal

Farmers have to burn their crops to try to save neighboring crops.

Smut Fungi



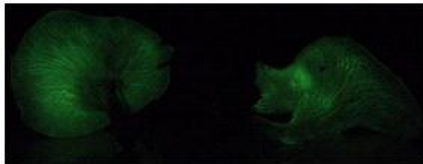
Grain fungus: sugar cane, corn, grasses, etc.

Crop has to be destroyed to prevent spread.

Edible, in some countries smut fungus is a delicacy.

Other fun ones:

Foxfire
honey mushroom
genus *Amillaria*



enzyme called luciferase

40 species will glow in the dark.

Enzyme called luciferase breaks down proteins and glows.

Phylum Ascomycota

Class Basidiomycetes: The Mushrooms

👉 Class Ascomycetes: The Sac Fungus

Class Zygomycetes: The Bread Molds

Asci ascospores



Morel



expensive



Yeasts



Yeasts produce alcohol as a byproduct. It is used to make beer and wine. That yummy bread smell when it is baking is actually the alcohol burning off and mixing with ozone that is produced.

It is classified as being parasitic. One species can cause thrush which is a condition where the tongue gets a fungal infection. There are many types of yeast infections that can occur in the human body such as candida overgrowth.

Reproduce via budding.

Only organelle is a food vacuole.

Ergot of Rye



Hallucinogen - brain damage

Chestnut - thought it was extinct but a small grove found.

Dutch Elm Disease



Chestnut Blight



Phylum Asmastigomycota

Class Basidiomycetes: The Mushrooms

Class Ascomycetes: The Sac Fungus

👉 Class Zygomycetes: The Bread Molds

Bread Mold Time-lapse of bread mold on bread & orange



<http://www.youtube.com/watch?v=PXwLddA4Ctw&NR=1>

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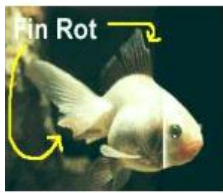
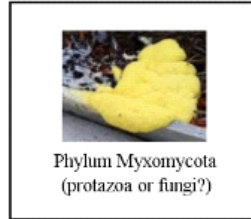
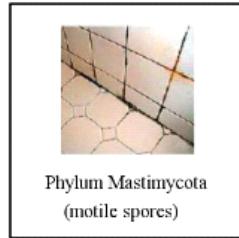
Pureview:

<http://viewpure.com/PXwLddA4Ctw>



Ben Watt: The biology textbook say bread molds reproduce asexually by making spores in sporophores. These sporophores are not fruiting bodies because fruiting bodies are the structures fungi use for sexual reproduction.

The key is spores (sexual mode of reproduction)



water molds
and
mildew



<http://www.youtube.com/watch?v=JsQHWj2Rfxg> is the pretty one, but takes almost 5 min, so let them come back to it.

<http://viewpure.com/JsQHWj2Rfxg>



The key is spores (sexual mode of reproduction)



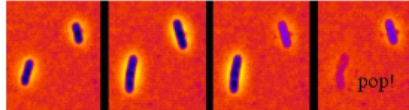
Genus *Penicillium*



blue cheese

not the same species as the one that is used to produce medicinal penicillin

Camembert Roquefort



Medicinal Penicillin:

The only way to gather it from the fungus is to put it under stress.

The way it destroys bacteria is that it makes the bacterial cell wall impossible to synthesize.

The key is spores (sexual mode of reproduction)



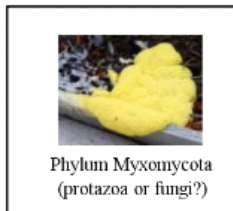
Phylum Amastigomycota
(non-motile spores)



Phylum Mastinycota
(motile spores)



"Imperfect Fungi"
(holding area)



Phylum Myxomycota
(protazoa or fungi?)

Disagreement over whether these are protozoa or fungi

not to be confused with the protist of same name.

Plasmodium (the name for a colony of slime mold)



Feeding phase
It will seem like a protist in this phase!



Reproductive phase
motile or non-motile spores depending on species
It is like a fungi in this phase!

<http://www.youtube.com/watch?v=GScyw3ammk>

<http://viewpure.com/GScyw3ammk>

Quiz Links:

2:30 pm - <http://www.virtualhomeschoolgroup.com/mod/quiz/view.php?id=13862>

2011/12 - <http://www.virtualhomeschoolgroup.com/mod/quiz/view.php?id=18242>

Zygosporangia

germinates

— Irish
potato
blight

— destroys
ability to
make
new
cell
wall



8am: <http://www.virtualhomeschoolgroup.com/mod/quiz/view.php?id=803>
9am: <http://www.virtualhomeschoolgroup.com/mod/quiz/view.php?id=10856>
2:30: <http://www.virtualhomeschoolgroup.com/mod/quiz/view.php?id=13862>