

PRACTICAL MYCOLOGY

LAB-7

Oomycota

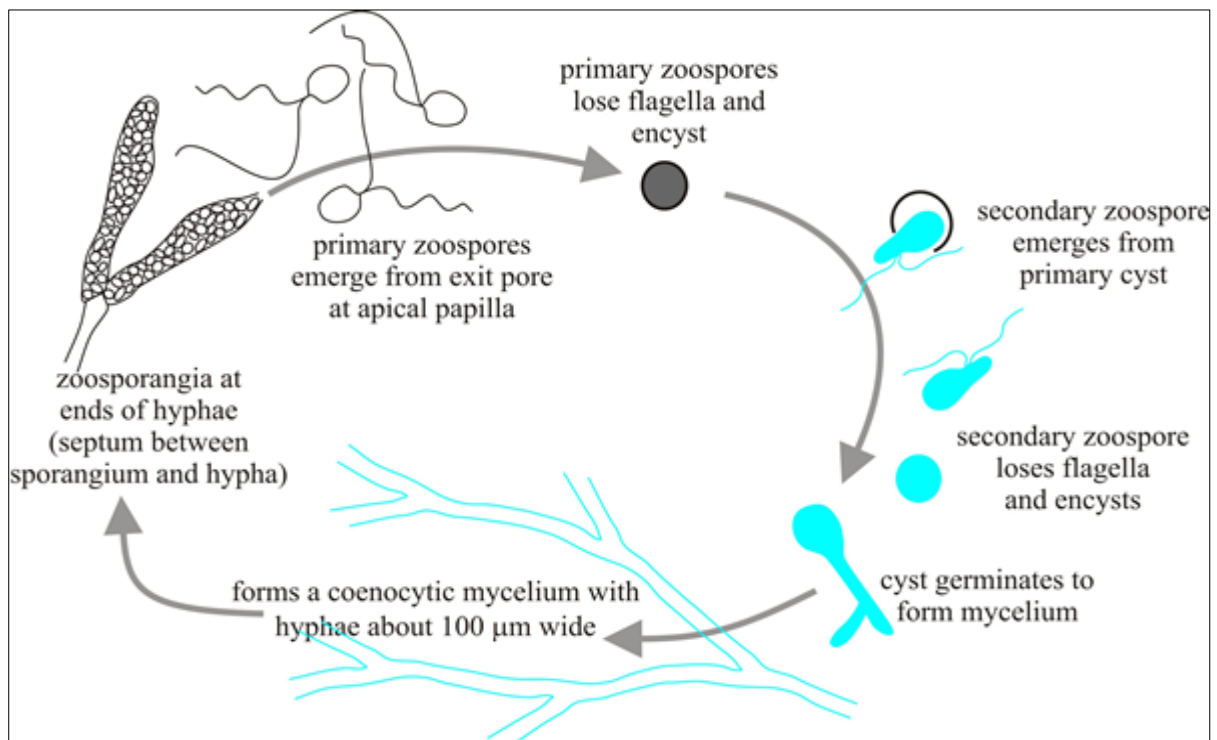
SAPROLEGNIALES, PERONOSPORALES, PYTHIALES



Phylum: Oomycota

The Oomycota, also known as “water molds” Primitive species live in water and are called Water molds, Many are parasitic on algae, fungi, Advanced species are living obligate parasite on higher plants that cause diseases such as white rusts, and downy mildews. The cell walls of these organisms are composed largely of cellulose or cellulose-like polymers.

Most species of Oomycota can reproduce both sexually and asexually. Sexual reproduction is said to be "oogamous" A gamete nucleus from an antheridium (male gametangium) moves into an oogonium (female gametangium), through direct contact of the antheridium and oogonium, and fuses with an oosphere (egg). The result is an oospore (the zygote, a thick walled sexually produced spore) which is not motile. Asexual reproduction is by means of zoospores, that have two flagella - one tinsel and one whiplash. In this lab you will examine two orders of Oomycota, one aquatic, and one terrestrial.



Life cycle of Oomycota (asexual)

Taxonomy**Phylum : Oomycota****Class : Oomycetes****Order1 : Saprolegniales****Genus : *Saprolegnia sp******Saprolegnia sp.***

Members of this genus are parasites on fresh water fish, and fish eggs.



(A) *Saprolegnia sp.* zoosporangium, (B&c) *Saprolegnia sp.* Parasitic infection of a fish

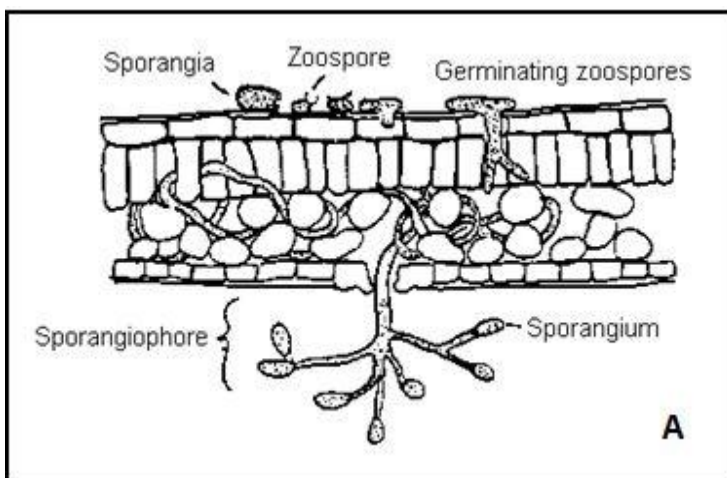
Order2 : Peronosporales

Family : Peronosporaceae

Genus : *Peronospora parasitica*

***Peronospora parasitica*:**

The fungus causing **downy mildew** in crucifers. the sporangiophores cover the surface of the leaves and stems of the infected plants, giving them a "downy" appearance



(A) *Peronospora parasitica* (sporangiophores and haustoria), (B) Downy mildew infection on leaf

Family : Albuginaceae

Genus : *Albugo candid*

***Albugo candida*:**

Otherwise known as a "**white rust**" (cause White rust of crucifers) which produces whitish coloured blisters on the surface of its



White rust of Crucifers

Order2 : Pythiales

Family : Pythiaceae

Genus : *Pythium sp*, *Phytophthora*

Pythium sp.

(The causal agent of Damping-off disease of seedlings)



Damping of Diseases caused by Pythium

Phytophthora sp

(the cause of late blight of potato & tomato)

