Mycology

Lec (4)

Categories in Classification of fungi

Kingdom Fungi
Phylum Basidio**mycota**
Class Basidio**mycetes**
Order Agaric**ales**
Family Agaricac**eae**
Genus *Agaricus*
Species: *Agaricus campestris* L.

According to Alexopolus 1996 can classified fungi and fungi like organism into 3 kingdoms depended upon the characteristics of fungi (somatic phase , sexual and asexual spores)

1- Kingdom: Protista or Protozoa

Phylum: Myxomycota (slime molds)

Phylum: Plasmodiophoromycota

2- Kingdom: Straminpilia (Cromista)

Phylum Hyphochytriomycota

Phylum Labyrinthulomycota

Phylum: Oomycota

3- Kingdom: True Fungi (Fungi)

Phylum: Chytridiomycota

Phylum: Zygomycota

Phylum: Ascomycota

Phylum: Basidiomycota

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Kingdom:Protista or Protozoa (Phylum: Myxomycota) The Latin name *Myxomycota* comes from the Ancient Greek words *μύξα (myxa)*, which means "mucus", and *μύκης (myces)*, which means "fungus"..

Members of this division are commonly referred to as slime molds. Although presently classified as Protozoans, in the Kingdom **Protista**, slime molds were once thought to be fungi (kingdom **Mycetae which includes lower and higher fungi**) because they produce **spores** that are borne in **sporangia**, a characteristic common to some taxa of fungi. However, the assimilative stage in slime molds is morphologically similar to that of an amoeba. This assimilative stage has been designated a **myxamoeba** The myxamoeba, as is the case of the amoeba, is a uninucleate, haploid cell which is *not* enclosed in a rigid cell wall, and ingests its food by means of **phagocytosis**. In fungi, the assimilative stages are **mycelium** and **yeast**, both of which are surrounded by a rigid cell wall and obtain their food by means of absorption. These are some of the reasons why mycologists no

longer recognize slime molds as being fungi.

1- lack cell wall

2- somatic phase is uninucleate flagellated swarm cell (1n) or an amoeba is called

myxoamoeba (1n) others multinucleate is called plasmodim a mass ameoboid protoplasm has many nuclei (multinucleate) , 2n cell wall less.

3-produce spores that are borne in sporangia,

4- Most of these individuals are saprophyte , and its nutrition phagotrophic .

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5- life cycle:- spores are germinated to form myxamoebae(non flagellated) or swarm cells (flagellated cell). And fused swarm cells sexually to produce zygote (2N) , zygote germinate forming plasmodium (2N) During favorable conditions, the plasmodium will migrate and feed for a period of time before being converted to numerous sporangia

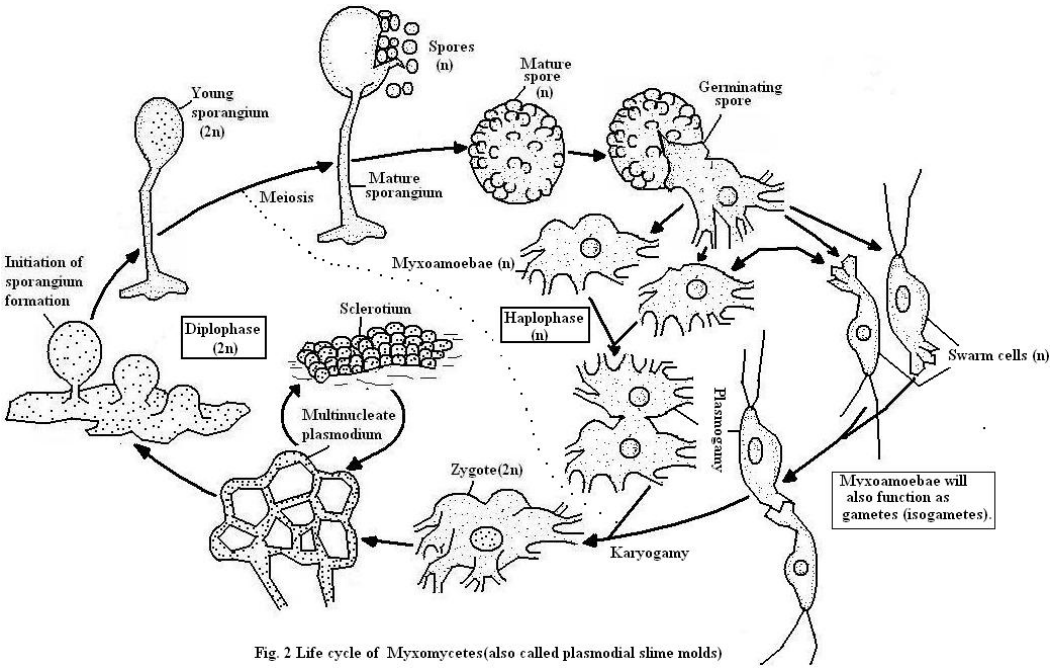

Fig. 2 Life cycle of Myxomycetes(also called plasmodial slime molds)

Phylum : Plasmodiophoromycota

are a group of obligate parasites commonly referred to as endoparasitic slime molds. Has the same characteristic of phylum myxomycota , All members are obligate parasites of algae, fungi, or plants, causing cell enlargement, especially of the roots. They are distinguished by the production of motile cells (zoospores) with two unequal anterior whiplash (flagella). The best-known examples attack higher plants,

causing economically significant diseases such as club-root of brassica (*Plasmodiophora brassicae*), powdery scab of potato (*Spongospora subterranea*: