

**MYXOMYCETE A AMAZING SLIME MOLDS GROUP****Dr. Teena Agrawal\***

Assistant Professr, Banasthali University, Niwai.

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**\*Corresponding Author****Dr. Teena Agrawal**Assistant Professr,  
Banasthali University,  
Niwai.**ABSTRACT**

The members of the Myxomycetes are commonly known as the slime molds. These organisms exhibit the phagotrophic mode of nutrition in the life cycle. They produce the following life stages in the life cycle multinucleate somatic phase called as the plasmodium, a resistant phase called as the sclerotium, the uninucleate cells which are flagellate (used in fusion). There occur two types of the cell division one of them was the centric cell division, and another cell division is the centric myxomycetes is the cosmopolitan group, they can be found in the Varity of the habitat, even in the lawn, flower bed, generally

they are found the moist temperate forest. Myxomycetes have proven very valuable not only for the mycologists but also they are very valuable for the cytologists, genetists, molecular biologists, biophysicists and the biochemists. The members of the myxomycets are very useful, since they show the early evolution of the life, the life cycle of them any of the fungi are very interesting and they destroy of the host in severe way, in some of the cases they reside in the host tissue. Overall the myxomycete is very important group of the fungal kingdom.

**KEYWORDS:** Myxomycetes, slime molds, cytology, genetics, parasites, saprophytes. complex life cycle.

**INTRODUCTION**

Myxomycetes are the cosmopolitan group, and they can found on the variety of the habitat, some of the habitat of the myxomycetes are as follows, these are the well distributed on the lawns, some of the flower beds, some of the members of the slime moulds can be found on the decaying woods and the bark.<sup>[1]</sup> The most common place where the slime molds can be found are the most temperate forest soil, where abundant amount of the slime moulds can be found over several layers of the soils, a number of the species of the slime molds forms the

great habitat.<sup>[1]</sup> As a habitat they can be found on the temperate forest, arctic and the Antarctic forest grassland, alpine. There can be seen the endemism effects, like some of the species of the slime molds are widely distributed and some of the species have the limited distribution.

Some of the species can be found on the melting snow mountains. Some of the genera of the slime molds are adapted for the desert. Some of the genera can be found on the cacti. Some of the species of the slime molds can be found on the dead fallen tissues of the woods of the cacti. Two other kinds of the habitat where the slime molds can be found are the soil and the bark of the trees. Feese and Madeliën discover many of the slime mold species from the dung soil as well as some of them found on the earthworm fecal matter. Slime molds are very common on the dung while some of the fungi are also found on the dung substrate. Another habitat of the fungi is the dead branches of the living tree. Some of the genera are like the *Stemonitis* are found on the fence and the rotting chamber in the house, fences.<sup>[3]</sup>

Slime molds virtually have not any economic significance. However, they are valuable in the food webs, however, it has been reported that the sclerotia or the fruits of the *Enteridium lycoperdon* has been eaten as the cooked food in some of the places of the Mexico tribal area.<sup>[3]</sup>

Myxomycetes have been studied by many people, the first recognizable literatures of the myxomycetes have been provided by Apinkow in 1654. However, it was Antony de Bary who gives the more detailed account of the life history of the myxomycetes in 1858.

De Bary differentiates the true slime molds from the cellular slime molds on the basis of the formation of the plasmodium. Baskin and De Bary have found that the slime molds have the protozoan ancestor Myxomycete have been termed as the slime molds and they have the phagotrophic mode of nutrition.<sup>[3]</sup> In the life cycle of the myxomycetes, there occurs three stages, these are enlisted as

1. Three types of the uninucleate cell among them one was the flagellates.
2. A multinucleate somatic phase, known as the plasmodium. In this protoplasm one can see the scuttling moving cytoplasm.
3. A resting stage consisting of the sclerotium.

Additionally, myxomycetes exhibit two kinds of cell division, one of them is the centric kind of cell division and another kind is the acentric kind of cell division.

The plasmodia and the sporophores of the species often appear in the lawns.

It was the De bary student joeasph rostafinski (1873) who gives the first classification of the myxomycetes. The phylum myxomycots contains the only one class termed as the myxomycetes, here in this class total six orders have been placed these order are the Liceales Echinosteliales Trichailles Physarales Stemonitales, Ceratiomyxelaes. These orders are differenties on the basis of the sporopohres development, types of the sporophores produces, method of the spore production, spore colour, presences of the thread like structures this are known as the capitiltium. The order have been described as the monophyletic, however the true phylogenetic relationship of the orders has never been reported.

**Spores:** Spores of the endoporous myxomycetes are liberated from there sporophores by a Varity of the factors including the wind, water, the activities of the animals theses spores are globose with a definite rather thick wall, the surface of the spores are smoothly thick walled, reticulate and they are lanceotalete. The spores of the Myxomycetes are appears to be the unexceptionally resistant towards the unfavourable conditions.

**Spores dispersal:** The dispersal of the spores occurs by means of the air currents, more recently the role of the arthropods also have been seen in the case of the dispersal of the spores.

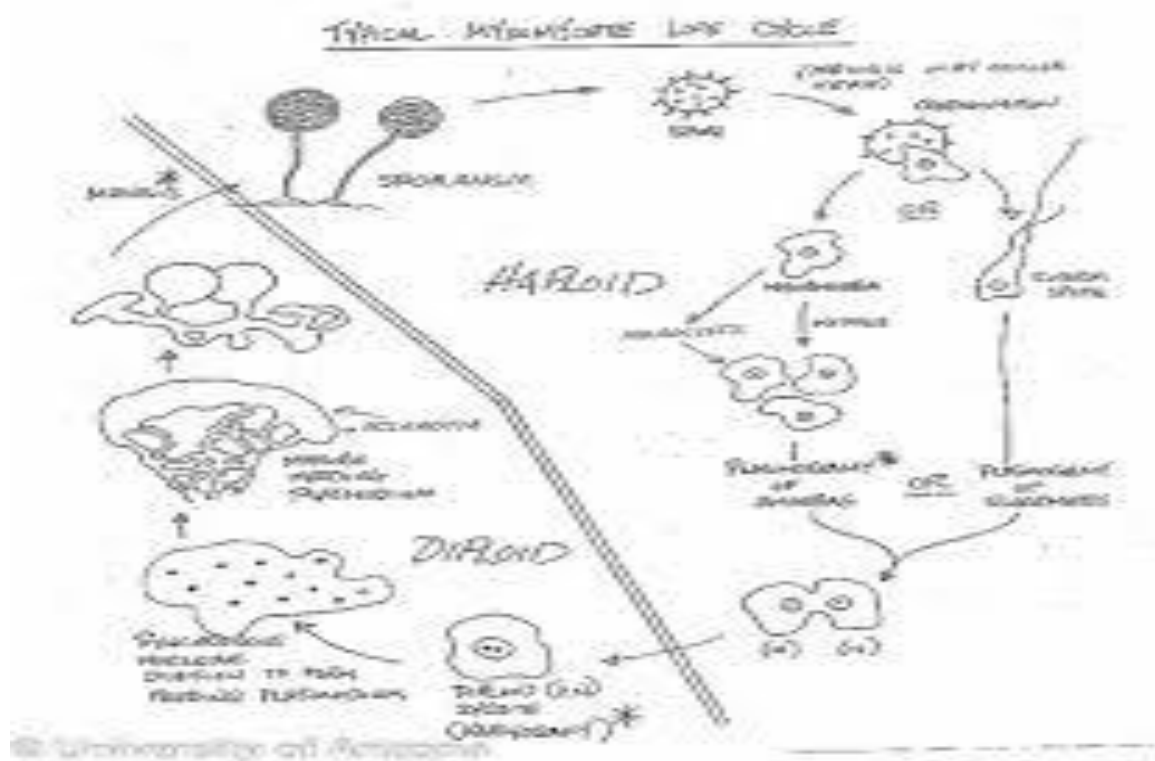


Figure 1: Myxomycetes life cycle (Sources driftless praries).

Spores germination, myxoamoebae, swarm cells.

In nature the myxomycetes spores germinate in water in the rain water and they form the amoebae or the swarm cells. When a spore germinates myxoamoebae or the flagellate's cells appear, these cells are known as the swarm cells.<sup>[1112]</sup> Swarm cells and the myxoamoebae fuse and they function as the gametes, their fusion leads to the formation of the zygote, the zygote of the heterothallic mycelium forms or it grows in the form of the multinucleate plasmodium, the plasmodium is in the form of the amoeboid structures. The mitotic divisions are the intranuclear and they do not follow the other pattern involving the centrioles

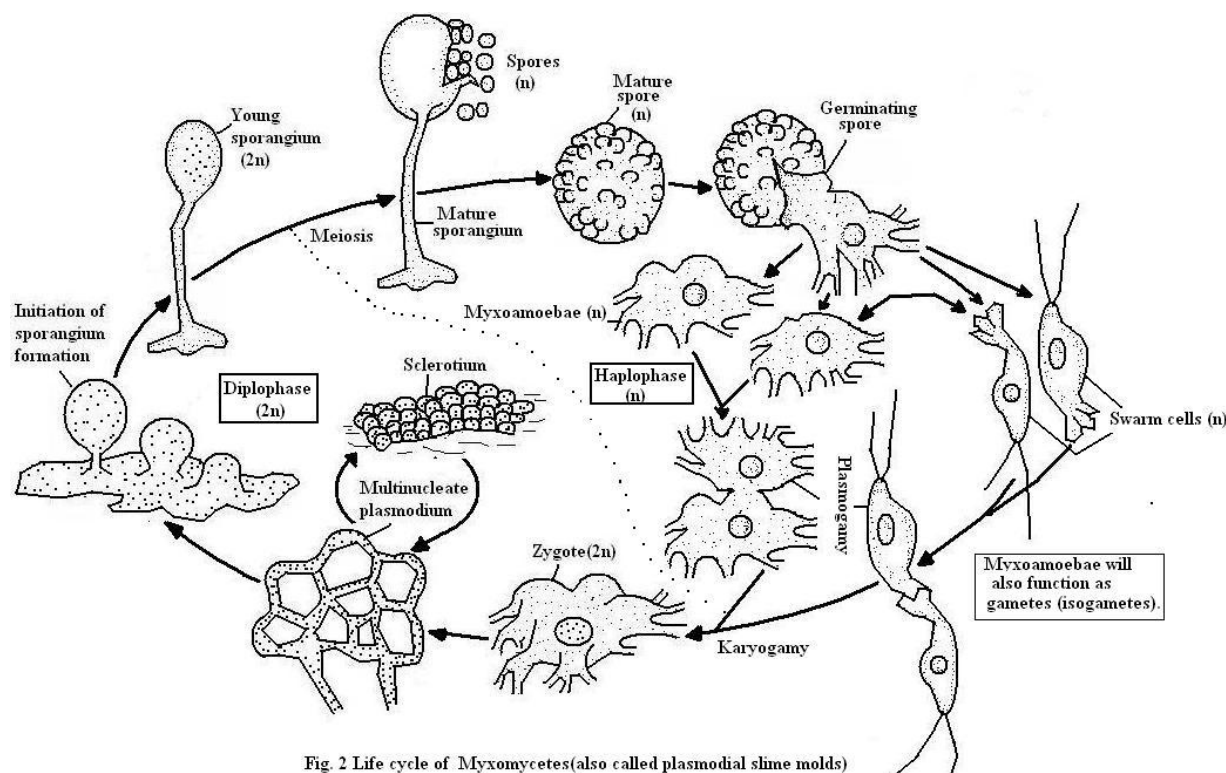


Fig. 2 Life cycle of Myxomycetes (also called plasmodial slime molds)

**Figure 2: Myxomycetes life cycle pattern (sources: peoi).**

The plasmodium often has the multinucleate mass of the protoplasm, the streaming of the protoplasm into the plasmodium is the feature of the very taxonomic value. Three basic kinds of the plasmodia are described in the myxomycetes, these are enlisted as the smallest types the protoplasmodium, like the species of the *Licea*, the another kind of the aphanoplasmodium, examples are the stemonitales. The third one is the phaeoplasmodium, they are represented by the physarales. The fourth type of the mycelium was found in the Trichalies.<sup>[2,4,6,7]</sup>

**Scelrotia:** In the normal phase the plasmodium gives rises to the Sclerotium, that can be dormant for the long times. sclerotia can be indices in to the mycelium by the way of the germinations.<sup>[8,9,10]</sup>

### **Sporulation**

In some of the cases the entire plasmodium is converted in to the sporophores like structures. The sporophores form the sporangium. There are any kinds of the sporophore have been reported, some of the orders of the myxomycetes are follows as.

- 1) Liceales
- 2) Echinostellies
- 3) Trichiales
- 4) Physlaresles
- 5) Stemonitales
- 6) Ceratiomyxelss.

### **CONCLUSION**

Well this is the short review article of the class myxomycetes of the myxomycota division the class has the all features of the primitive as well as the advanced characters. They are the typical saprophytes as well as the parasites on the higher plants and higher angiosperm. They follow the typical gametophytic life cycles. The review is informative for the students of the beginners of the fungal biology.

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