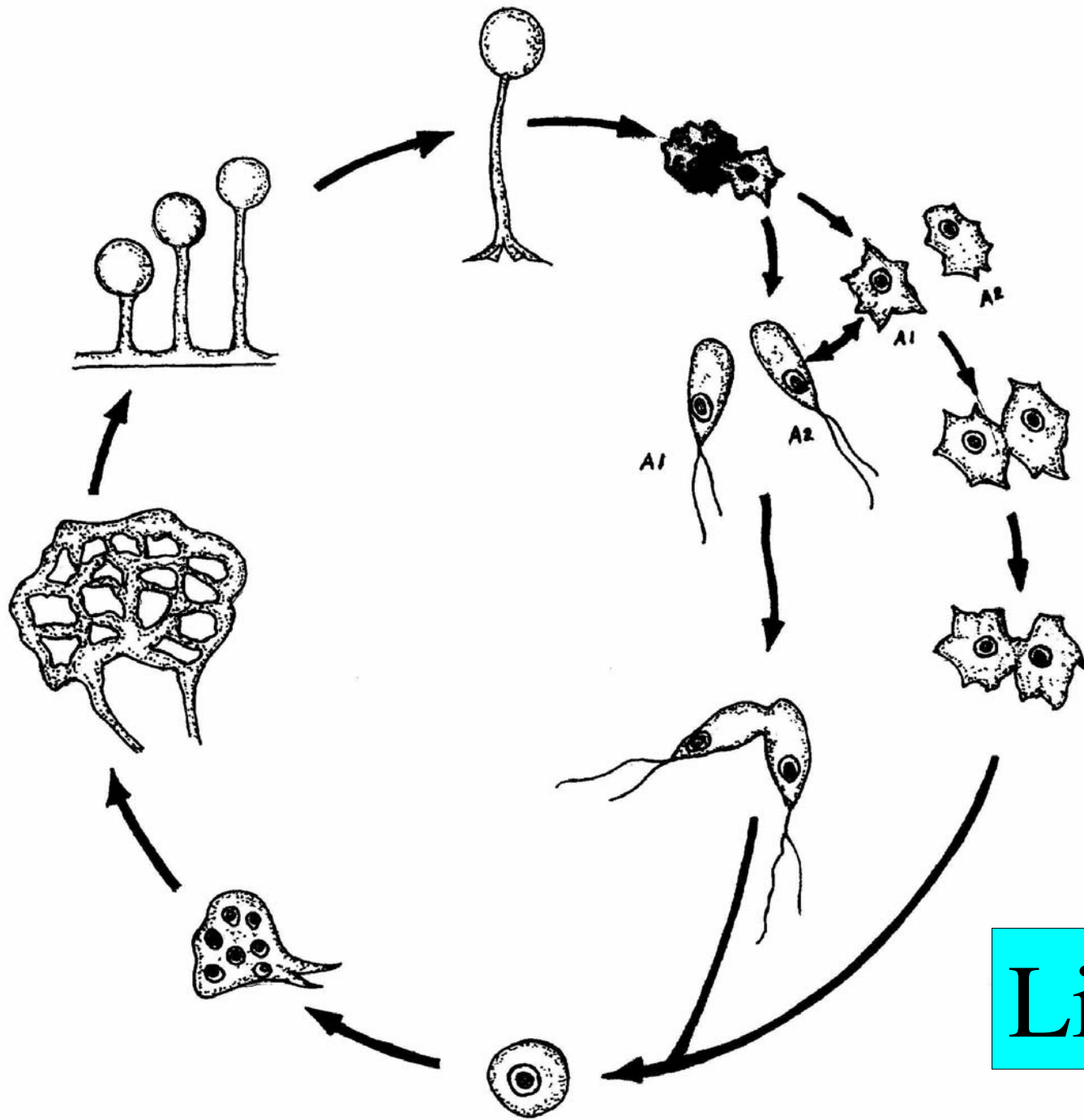


# **An Introduction to the Myxomycetes**

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**Myxomycetes (also called plasmodial slime molds) - a group of fungus-like organisms, with approximately 850 species known worldwide.**



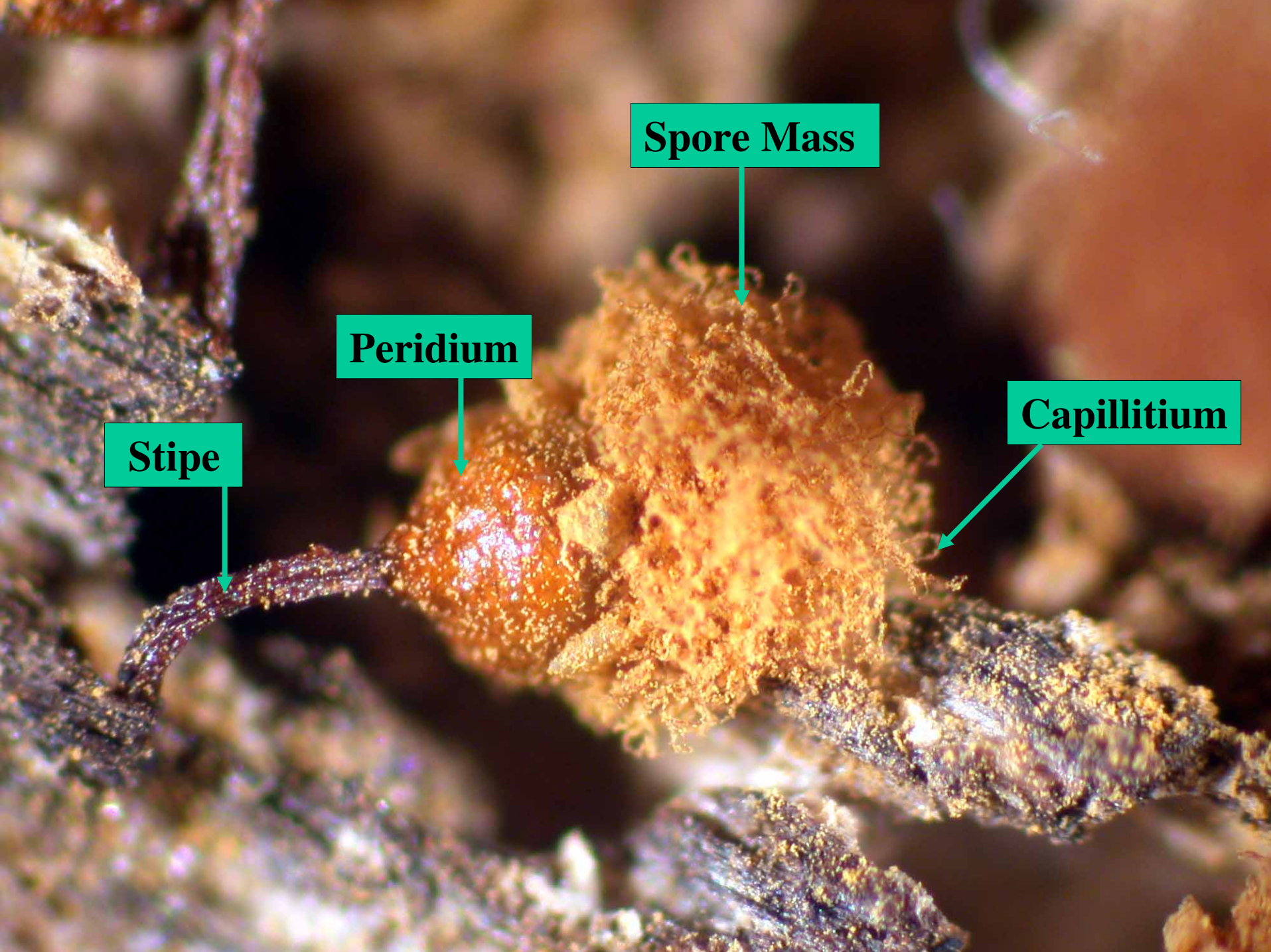
Life Cycle

# Plasmodium



**Fruiting Body**





**Spore Mass**

**Peridium**

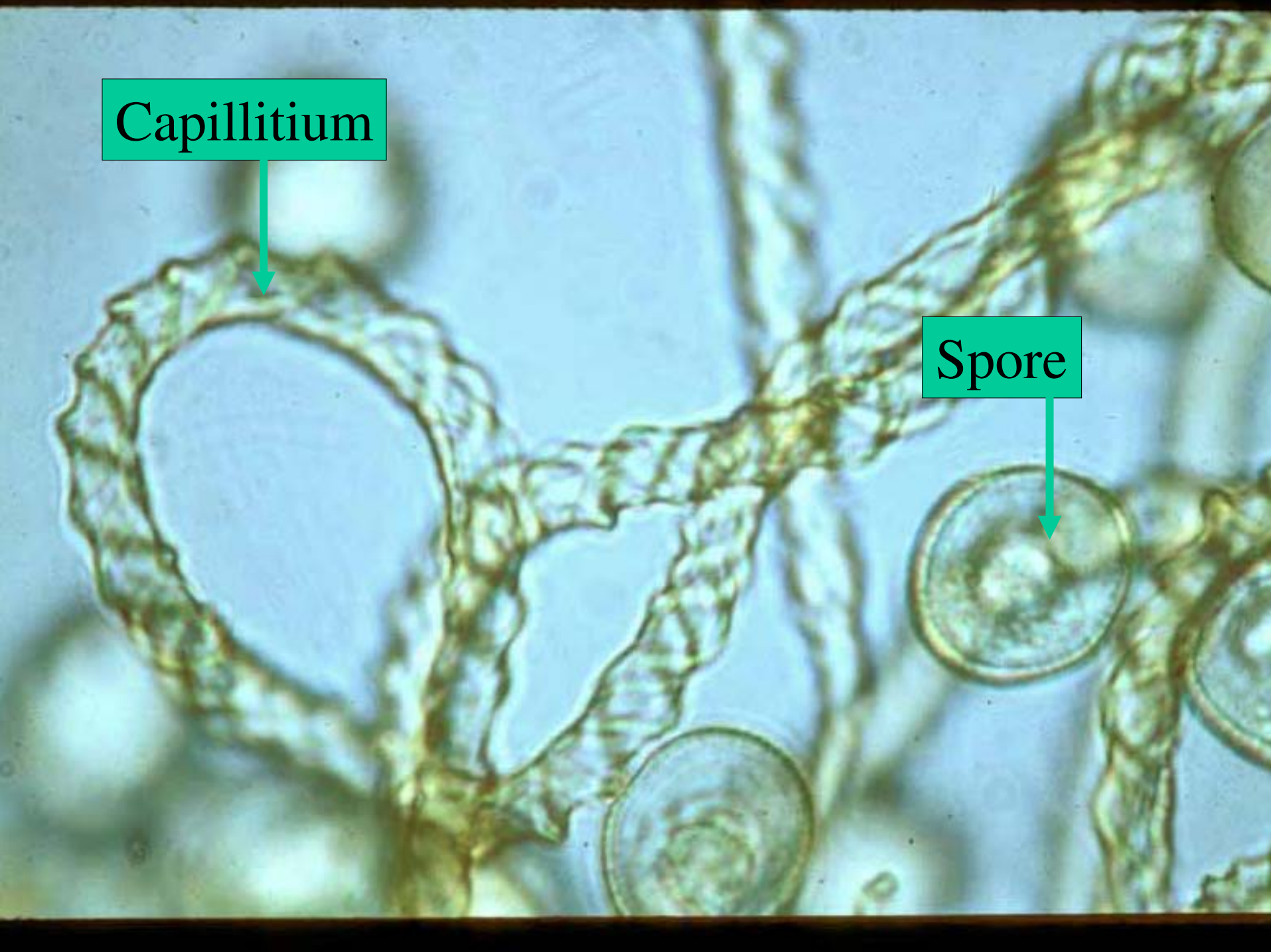
**Stipe**

**Capillitium**

Capillitium



Spore



# Key to Orders of Myxomycetes

- |   |                 |
|---|-----------------|
| 1 Spores borne externally                     | Ceratiomyxales  |
| 1 Spores borne internally                     | 2               |
| 2 True capillitium absent                     | Liceales        |
| 2 True capillitium present                    | 3               |
| 3 Fruiting bodies small (<0.5 mm tall)        | Echinosteliales |
| 3 Fruiting bodies larger (>0.5 mm tall)       | 4               |
| 4 Spore mass more or less brightly colored    | Trichiales      |
| 4 Spore mass usually purple-brown to black    | 5               |
| 5 Lime present in some part of fruiting body  | Physarales      |
| 5 Lime absent from all parts of fruiting body | Stemonitales    |



## Order Ceratiomyxales

- spores borne externally
- fruiting bodies unlike those of other myxomycetes
- each spore gives rise to eight swarm cells

## Order Echinosteliales

- minute to very small fruiting bodies
- true capillitium present
- fruiting bodies are stalked sporangia



Ceratiomyxales

# Echinosteliales



|←0.1 mm→|

## Order Stemonitales

- capillitium thread-like, usually dark and smooth
- spores black or at least dark
- fruiting bodies are mostly sporangia

## Order Liceales

- no true capillitium
- pseudocapillitium sometimes present
- spores usually light colored

# Stemonitales





Liceales

## Order Trichiales

- columella never present
- spores more or less brightly colored
- capillitium thread-like, often sculptured

## Order Physarales

- lime present in some part of the fruiting body
- spores always dark in mass
- phaneroplasmodium

# Trichiales





# Physarales



# Order Ceratiomyxales

*Ceratiomyxa*

# Order Echinosteliales

*Barbeyella*

*Clastoderma*

*Echinostelium*

# Order Liceales

*Cribraria*

*Dictydium*

*Enteridium*

*Licea*

*Lycogala*

*Tubifera*

# Order Stemonitales

*Brefeldia*

*Comatricha*

*Enerthenema*

*Lamproderma*

*Macbrideola*

*Stemonitis*

# Order Trichiales

*Arcyria*

*Calomyxa*

*Dianema*

*Hemitrichia*

*Metatrichia*

*Perichaena*

*Prototrichia*

# Order Physarales

## Family Didymiaceae

*Diachea*

*Diderma*

*Didymium*

*Lepidoderma*

*Mucilago*

# Order Physarales

## Family Physaraceae

*Badhamia*

*Craterium*

*Fuligo*

*Leocarpus*

*Physarella*

*Physarum*

# Types of Fruiting Bodies

- **Sporangium**
- **Plasmodiocarp**
- **Aethalium**
- **Pseudoaethalium**





Sporangium



Plasmodiocarp

# Aethalium



# Pseudoaethalium



**Note the individual units that make up a pseudoaethalium.**



# Primary Microhabitats

- **Coarse woody debris**
- **Ground litter**
- **Bark surface of living trees**
- **Dung, soil, and aerial litter**

A photograph of a forest floor covered in coarse woody debris. The scene is dominated by numerous fallen logs and branches of varying sizes, many of which are heavily covered in bright green moss. The ground is a mix of brown pine needles, dry leaves, and patches of green grass. Several standing tree trunks are visible in the background, some with moss growing on their lower sections. The overall atmosphere is one of a mature, undisturbed forest.

Coarse woody debris

Ground litter





A close-up photograph of a tree trunk showing the bark surface. The bark is dark brown and deeply furrowed, with numerous small, light-colored lichen and moss patches scattered across it. The texture is rough and uneven. The background is blurred, suggesting a forest setting.

**Bark surface of living trees**



Aerial litter



**The moist chamber culture technique is often used to study the myxomycetes associated with such microhabitats as the bark surface of living trees, ground litter, and aerial litter.**



**Moist chamber culture prepared with  
a sample of ground litter.**

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