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.
Key to Orders of Myxomycetes

1  Spores borne externally  
   Ceratiomyxales
1  Spores borne internally

2  True capillitium absent  
   Liceales
2  True capillitium present

3  Fruiting bodies small (<0.5 mm tall)  
   Echinosteliales
3  Fruiting bodies larger (>0.5 mm tall)

4  Spore mass more or less brightly colored  
   Trichiales
4  Spore mass usually purple-brown to black

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
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
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
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
Coarse woody debris
Ground litter
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.
Appreciation is extended to Clive Shirley, Emily Johnson, Randy Darrah and Orson K. Miller, Jr. for contributing images that were used to prepare this presentation.