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## SYSTEMATICS OF DIVISION ASCOMYCOTA 2

### **Subdivision:** *Pezizomycotina*

*Pezizomycotina* is the largest subdivision of *Ascomycota* with approximately 32,000 species and it contains the filamentous *Ascomycota* members. The subdivision is ecologically diverse with species functioning in ecological processes and symbioses including wood and litter decay, animal and plant pathogens, mycorrhizae, endophytes and lichens, and occurring in aquatic and terrestrial habitats. The major ascus types include operculate, inoperculate, prototunicate, unitunicate and bitunicate, which are based primarily on the number and thickness of functional ascus walls and mechanisms of dehiscence. The Subdivision There are 11 classes (*Orbiliomycetes*, *Pezizomycetes*, *Lecanoromycetes*, *Eurotiomycetes*, *Geoglossaceae*, *Lichinomycetes*, *Leotiomycetes*, *Sordariomycetes*, *Laboulbeniomycetes*, *Dothideomycetes*, and *Arthoniomycetes*) in the subdivision *Pezizomycotina*.

### **Group:** Discomycetes

Discomycetes are an artificial grouping of apothecia-producing fungi in *Ascomycota*.

### **Class:** *Orbiliomycetes*

The class includes the single order, single family, 12 genus and 288 species.

### **Order:** *Orbiliales*

The order has inoperculate ascus and its members are parasitic on nematodes.

### **Family:** *Orbiliaceae*

The family members are widely distributed. but they are more prevalent in temperate regions. Some members are carnivorous and they have specialized mechanisms to trap

nematodes (example genus: *Orbilina*).

**Class:** *Pezizomycetes*

*Pezizomycetes* members are apothecial fungi with operculate asci. The class includes a single order.

**Order:** *Pezizales*

Pezizales includes 16 families, 199 genera, and approximately 1700 species. Its members can be saprobic, mycorrhizal, or parasitic on plants and they have importance, such as morels, the black and white truffles, and the desert truffles.

**Genus:** *Peziza*

*Peziza* is a saprophytic genus of cup fungi growing on the ground, rotting wood, or dung and it contains about 50 widespread species.

**Genus:** *Morchella*

Members of the genus have a honeycomb appearance because of the network of ridges with pits composing their cap and it includes about 80 widely distributed species.

**Genus:** *Helvella*

*Helvella* is commonly known as elfin saddles and their members are identified by their irregularly shaped caps, fluted stems, and fuzzy undersurfaces. The genus includes approximately 50 species.

**Genus:** *Tuber*

The tuber is a genus of hypogeous relatives of the cup fungi which evolved a spore dispersal strategy that depends on animals. They are typically found near mycorrhizal roots of woody plants.

**3. Classis:** *Lecanoromycetes*

*Lecanoromycetes* is the largest class of lichenized fungi that contains 12 order, 77 families, 33 genus and 14200 species.

**Classis:** *Lichinomycetes*

*Lichinomycetes* members are lichenized fungi includes the single order *Lichinales*.

**Classis:** *Leotiomycetes*

The class contains 5 order, 19 families, 641 genus and 5600 species.

**Order:** *Helotiales*

*Helotiales* is the largest order of inoperculate Discomycetes. It includes 10 family, 501 genus and 4000 species.

**Order:** *Erysiphales*

Order *Erysiphales* is represented by 1 family (Erysiphaceae), 16 genera and 873 species. The members of the order are widely distributed all over the world and cause diseases on numerous wild and cultivated plants parasitizing about 10 000 species of angiosperms only. As a group, powdery mildews are noted for their virulence, causing great losses to crops on a worldwide basis, as well as for their host specificity. The distribution of the Erysiphales is cosmopolitan, reaching from tropics to the polar areas.

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