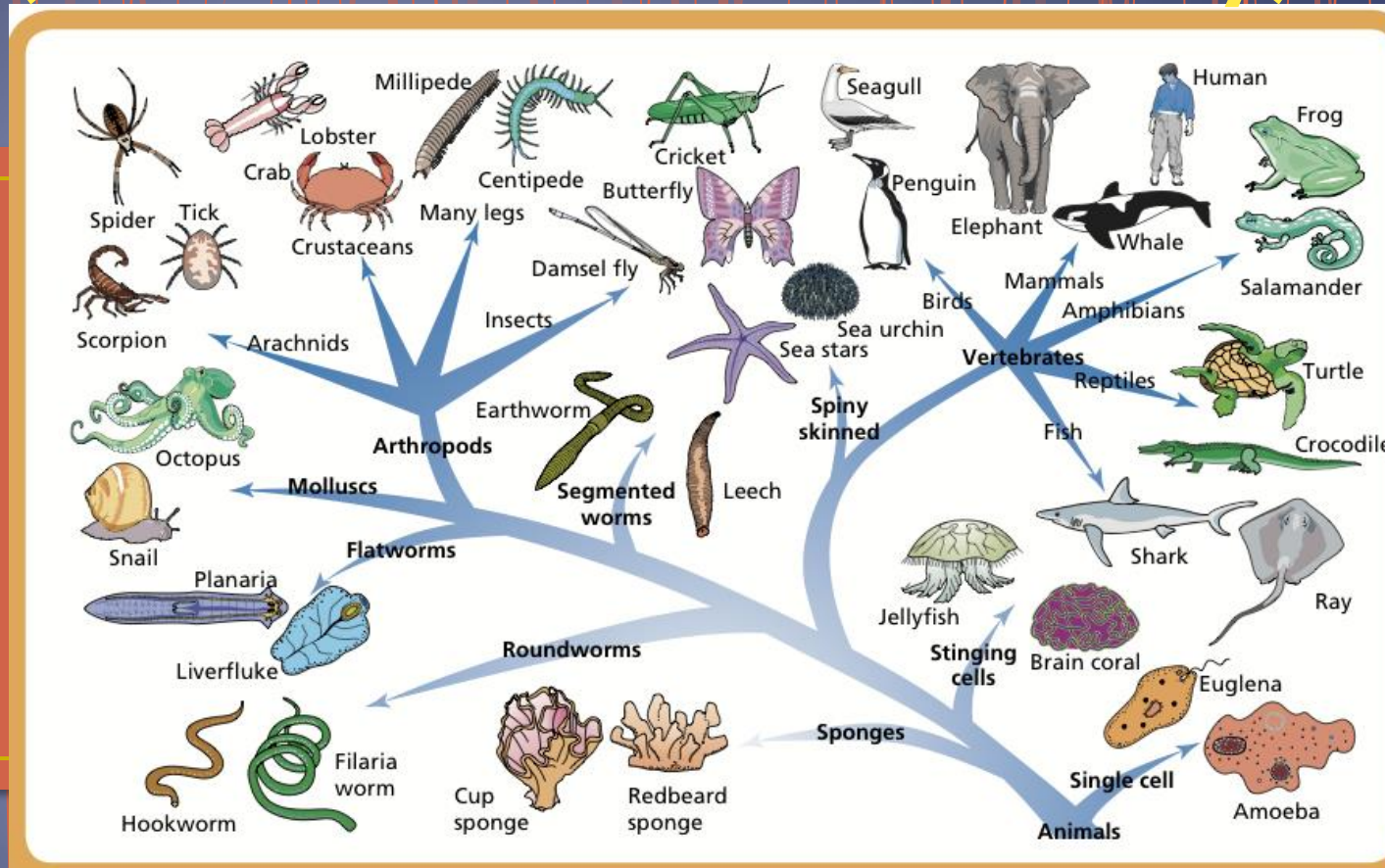


# Zoology (2)

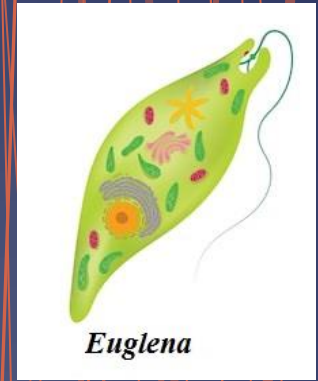
## (Basics of Animal Taxonomy)



*Dr. Shereen Ahmed Fahmy*

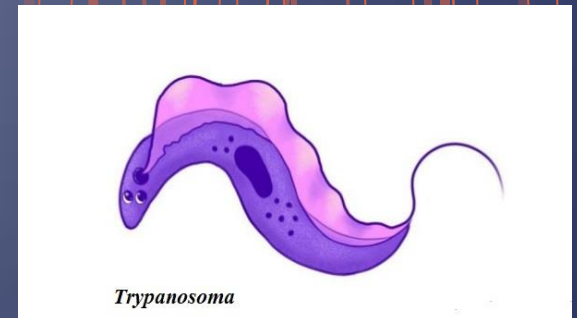
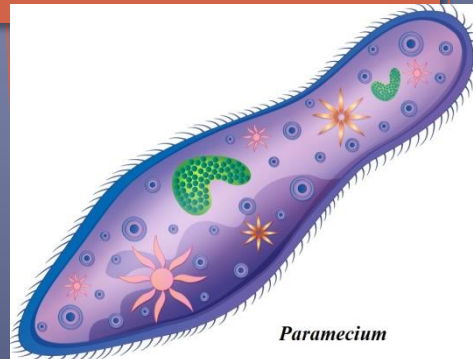
Assis.Prof of Parasitology, Zoology Department.

**1<sup>st</sup> year Students (Credit hours)**



# Chapter (2)

# Phylum Protozoa



# Agenda

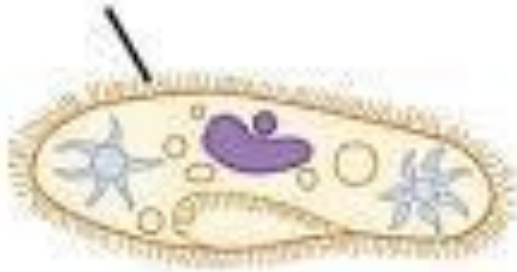
- 1- General characters of Protozoa
- 2- Classification of Protozoa

# Characteristics of PHYLUM Protozoa

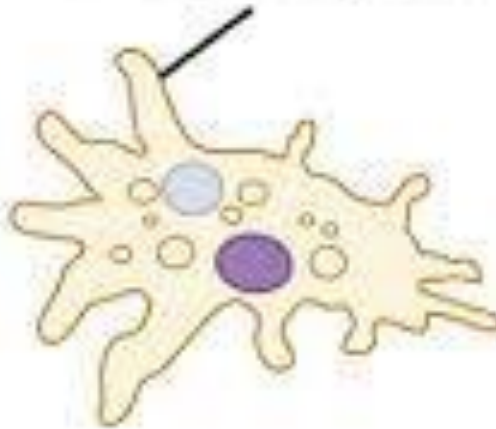
- **Single-celled or unicellular organisms.**
- **They include free-living, mutualistic, commensal and parasitic forms.**
- **Most are microscopic, Size = microscopic (3 to 1,000 microns).**
- **They move by pseudopodia, flagella, cilia and they can direct cell movements.**
- **Protozoa are heterotrophic microorganisms, and most species obtain large food particles by phagocytosis.**
- **Nutrition are holophytic (like plant) or holozoic (like animal) or saprophytic or parasitic.**
- **Digestion: digestion is intracellular, occurs in food vacuoles.**

# LOCOMOTRY ORGANS of Protozoa

**Cilia**



**Pseudopod**



**Flagellum**



## Classification of Protozoa

Phylum	Class	Subclass	Examples
<b>Protozoa</b>	Rhizopoda (Sarcodina)	.....	<i>Amoeba,</i> <i>Entamoeba</i>
	Mastigophora (Flagellata)	<div style="display: inline-block; vertical-align: middle;"> <div style="border-left: 1px solid black; border-bottom: 1px solid black; width: 10px; height: 10px; margin-bottom: 2px;"></div> <div style="border-left: 1px solid black; border-bottom: 1px solid black; width: 10px; height: 10px; margin-bottom: 2px;"></div> </div>	<i>Euglena</i> <i>Trypanosoma</i>
	Sporozoa	.....	<i>Plasmodium,</i> <i>Monocystis</i>
	Ciliata	.....	<i>Paramecium,</i> <i>Vorticella,</i> <i>Balantidium</i>



*Amoeba*



*Entamoeba*

1- Class: Rhizopoda (Sarcodina)



*Euglena*

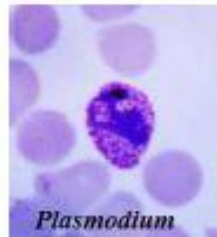


*Trypanosoma*



*Giardia*

2- Class: Mastigophora (Flagellata)

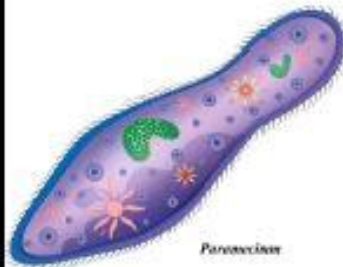


*Plasmodium*



*Monocystis*

3- Class: Sporozoa



*Paramecium*



*Paramecium*



*Balantidium*

4- Class: Ciliata

Figure 15: Examples of Phylum Protozoa

# Chapter (3)

# Phylum Porifera



# Agenda

**1-General characters of Porifera**

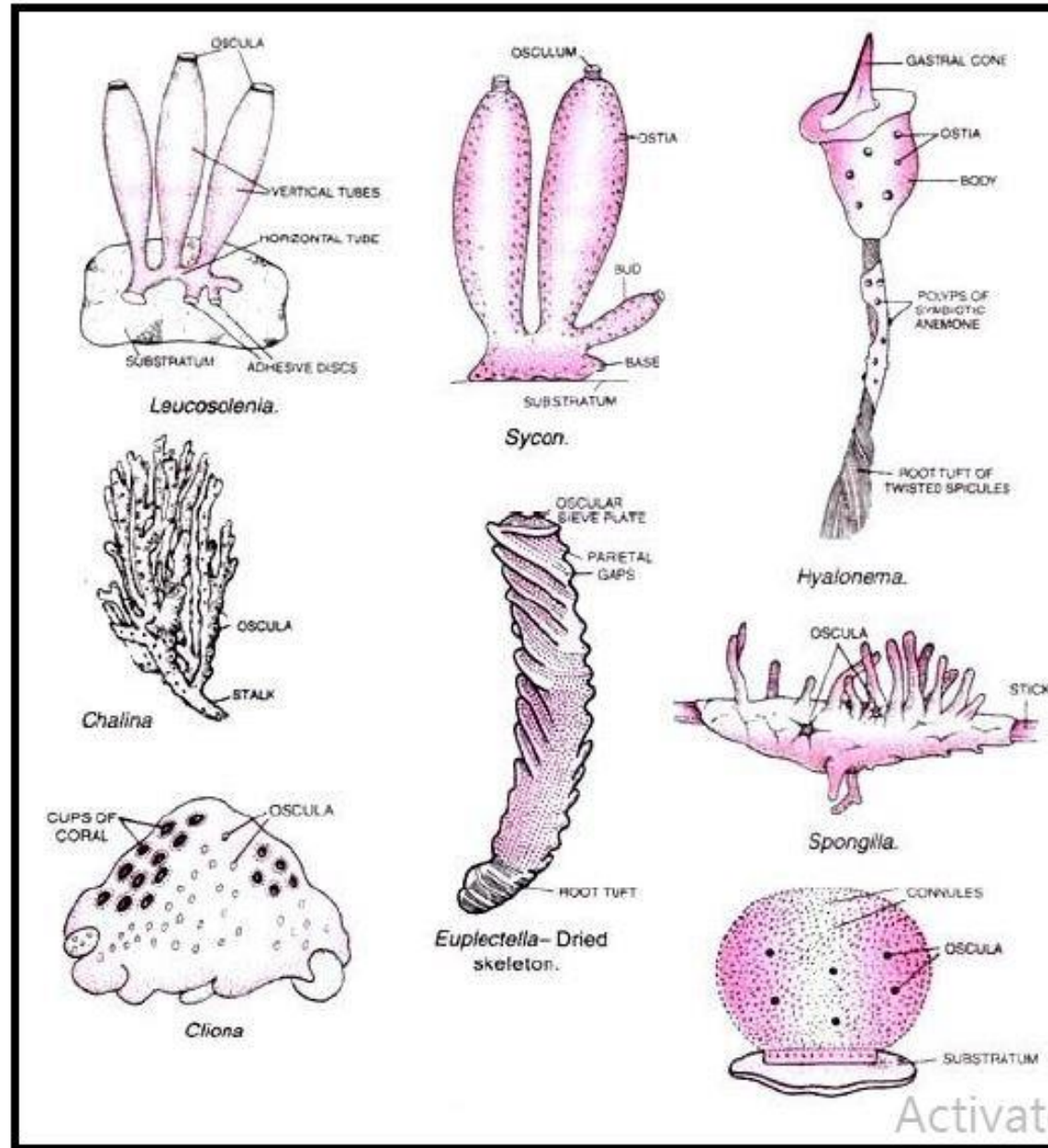
**2- Classification of Porifera**

**3- Economic Importance of Sponges**

# Porifera

(Gr. Porous-  
Pores,  
ferry-  
bearing).

## Phylum: Porifera



# 1-Characteristics of PHYLUM Porifera

❑ **Habitat:** Aquatic, mostly marine, few are terrestrial

**Habit:** They are solitary or colonial.

❑ **Grade of organization:** cellular grade of body.

❑ **Shape:** Body shape is variable, mostly cylinder shaped

❑ **Symmetry:** Asymmetrical or radially symmetrical.

□ **Germ layer: Diploblastic animals.** The adult body wall contains two layers, outer dermal layer and inner gastral layer. In between these two layers, there is a gelatinous and non-cellular mesogloea.

**In mesogloea, there is supporting endoskeleton called spicules which are made up of  $\text{CaCO}_3$  (Calcareous),  $\text{SiO}_2$  (Siliceous) or protein (Spongin fibres).**

# 2-Classification of Phylum Porifera

The phylum Porifera is divided into three classes

**Class 1: Calcarea**

Examples: *Leucosolenia*, *Sycon*

**Class 2: Hexactinellida**

Example: *Euplectella*

**Class 3: Demospongia**

Examples: *Cliona*, *Spongilla*, *Euspongia*.



*Leucosolenia*



*Euplectella*



*Cliona*

# Economic Importance of Sponges



Sponges as swabs.



Sponges as commensals (protective houses).



Sponge fishing in Florida.



Sponge culture (*Teichhexinella* sp).



Sponge fishing in Kalymnos.



*Proterospongia*.



*Euplectella* brooch.



Nudibranch feeding on sponge.

Sponges are economically important.

