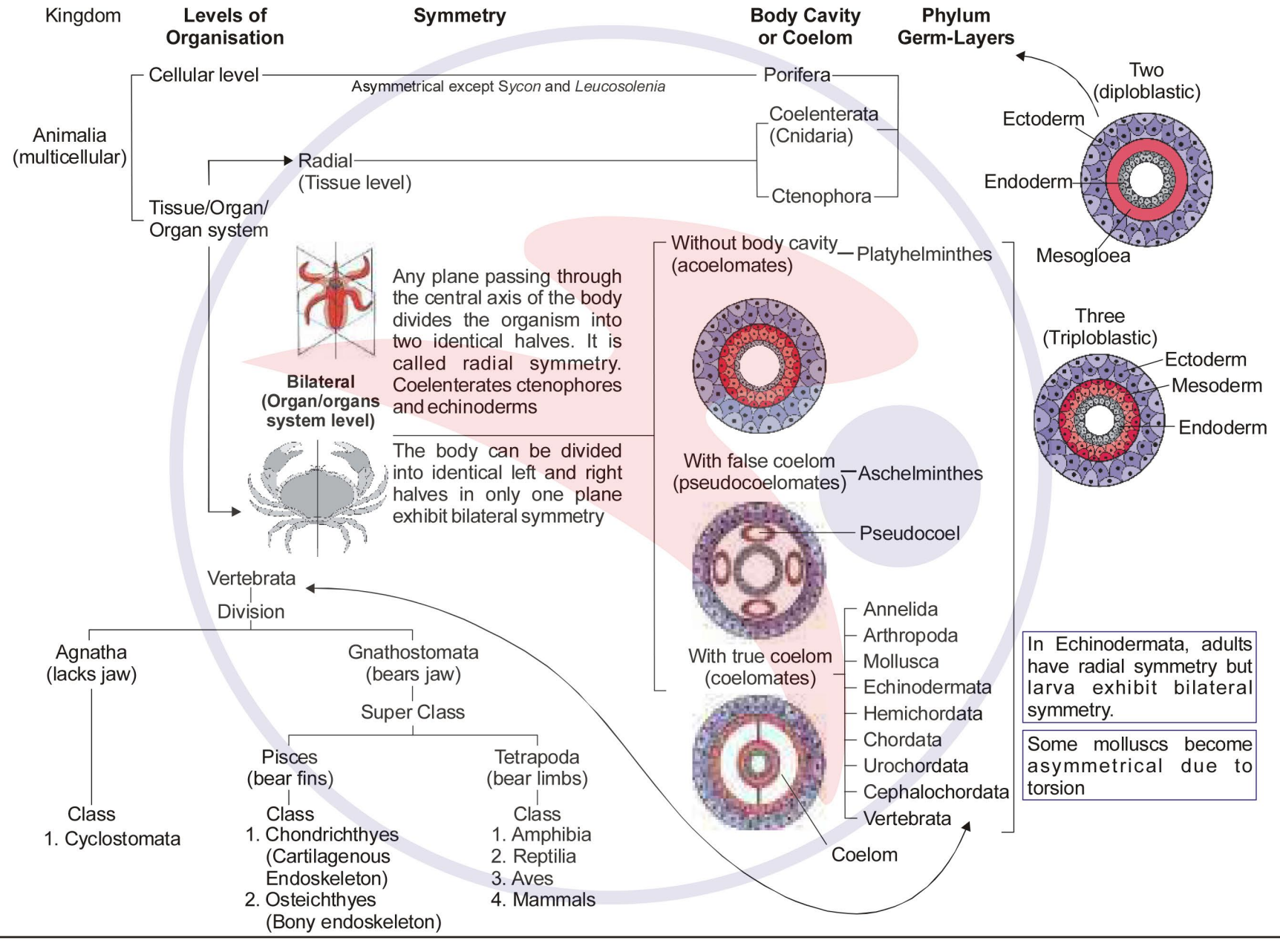
BROAD CLASSIFICATION OF KINGDOM ANIMALIA BASED ON COMMON FUNDAMENTAL FEATURES



ANIMAL KINGDOM

PHYLUM - PROTOZOA

(included in protista)

– World wide, Cosmopolitan mostly **Microscopic** , **Aquatic, terrestrial , free living** (***Amoeba***) or **parasitic** ***(Plasmodium)***. Solitary or colonial ***(Proterospongia)***. Causes serious diseases or pathogenic.

(1) Small microscopic, **Eukaryotic Unicellular,** Colourless, Spherical, Oval, Bell shaped, Spindle shaped slipper like having irregular Symmetry

(2) Body level of organisation of Protozons is **Protoplasmic level**.

(3) Protoplasm is uninucleated or multinucleated, animals are **naked** or some have body bounded by delicate membrane or a firm **pellicle/Test/shell/Lorica (Loose outer covering)**.

(4) In few groups of protozoa **Silica** & **$CaCO_3$ shell's** exoskeleton is found.

(5) Few show **nuclear dimorphism**. e.g. ***Paramoecium.***

(6) Body perfoms all necessary biological activity so in them **subcellular - Physiological division of Labour** is found.

(7) Locomotion structure
(1) Pseudopodia e.g. ***Amoeba, Entameoba***
(2) Whip like Flagella e.g. ***Euglena***
(3) Hairy cilia e.g. ***Paramoecium***
(4) Absent in sporozoans eg. Plasmodium (Malaria parasite)

All protozoans are heterotrophs and live as predators or parasites. They are believed to be primitive relatives of animals.

(8) **Nutrition** of Protozoans are mainly **holozoic** (Amoeba), **Parasitic** (***Plasmodium***), **Saprozoic** and Digestion is **intracellular** take place in **food vacuole**.

(9) **Respiration** and **Excretion** take place by exchange of gases through body surface. Nitrogenous waste is **Ammonia**.

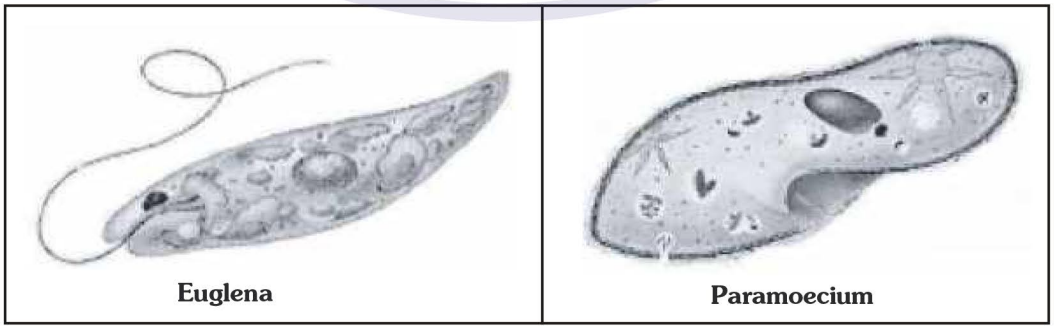
(10) Some excretion may occure through **contractile vacuole** (Present in fresh water protozoans). Some fresh water protozoans get rid of excess water through contractile vacuole known as **Osmoregulation**.

(11) ***Amoeba*** has one and ***Paramoecium*** has two contractile vacuoles.
(Gullet in paramoecium help in ingestion)

(12) **Reproduction** takes place by

Asexual		Sexual	
(1)	Binary fission (a) Iregular – ***(Amoeba)***	(1)	Syngamy ***(Plasmodium)***
	(b) Transverse fission ***(Paramecium)***		
	(c) Longitudinal fission ***(Trypansoma, Euglena)***		
(2)	Multiple fission ***(Plasmodium)***	(2)	Conjugation ***(Paramecium)***

Note : Now *Euglena* (myxotroph) is placed in Euglenoid and connecting link between Plant and Animal.



Euglena **Paramoecium**

PROTOZOA

On the basis of locomotary organs & Nucleus apparatus

Mastigophora or Flagellata

Loco. str. – Flagella, Aquatic and Endoparasite

***Leishmania donovani* -**

Human Parasite - Digenetic

Disease - **Kala azar** or **Dumdum fever**

by sand fly (***Phlebotomus***)

***Leishmania tropica* -** Causes **oriental sore**

***Trypanosoma gambiense* -**

Human Parasite - Digenetic

Disease - **African sleeping sickness**

by Tse-Tse fly (***Glossina palpalis***)

***Trypanosoma cruzi* -**

Disease - **Chagas**

By - Bugs

Intermediate host - Triatona

***Giardia intestinalis* -**

(Grand old man of intestine)

Human Parasite -

Disease - **Giardiasis**

***Trichomonas vaginalis* -**

Human Parasite - in vagina of female

Disease - **Leucorrhoea**

Trichomonas - tinax

Causes **pyorrhoea**

Sarcodina or Rhizopoda

(Amoeboid protozoans)

Psuedopodia – Aquatic and Endoparasite

(a) **Amoeboids** -

e.g. : ***Amoeba*** -(simplest protozoa)

Entamoeba - histolytica

Parasite in colon of man causes amoebic dysentery (Dimorphic)

Entamoeba - gingivalis

Sporozoa

Loc. str. absent

e.g. - ***Plasmodium***

The most notorious sporozoan is plasmodium (malarial parasite) which causes malaria, a disease which has a staggering effect on human population.

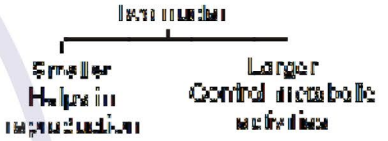
Ciliata

Locomotory structure Cilia –

Endo and Aquatic

e.g. - ***Paramaecium***

(Slipper animalcule)



Balantidium-found in colon of man