Wednesday, 7 July 2021 4:45 PM

unicellular → Protista → Protozoa

" chp-4 "

Animal Kingdom [classification]
+ easy understanding
↓
Multicellular, Heterotrophic, without cell wall

+ Newly discovered species
↓
Category ↓

** for classification of animals
we require certain characters or features

fundamental characters use to classify animal kingdom.

Animal kingdom → Non-chordates → 10 Phylums
→ chordates

Non-chordata

1. Porifera
2. Coelenterata = Cnidaria
3. Ctenophora
4. Platyhelminthes - Tape worm
5. Aschelminthes = Nematodes = Roundworm
6. Annelida
7. Arthropoda
8. Mollusca
9. Echinodermata
10. Hemichordata.

1. Level of organisation :→

(i) Protoplasmic level => unicellular organism → eg Amoeba (Protozoa)
(ii) cellular level => multicellular organism
(iii) Tissue level =>
(iv) organ level =>
(v) organ system =>

use to classify animals.

	Level of organisation
• Porifera	cellular
• Coelenterata	tissue
• ctenophora	tissue
• Platyhelminthes	organ
• Aschelminthes to chordata	organ-system

2. symmetry :→

** Two major symmetry
- Radial :→ Body of organism is divided into two halves in more than one plane.
- Bilateral :→ Body of organism is divided into two equal halves in only one plane.

Body can not be divided into two equal half in any plane
= Asymmetry

• Porifera = mostly Asymmetrical

*** • Radial = • Coelenterata & ctenophora
• Adult Echinodermata (starfish)

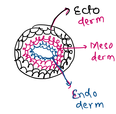
*** Platyhelminthes to chordata = Bilateral symmetry
larva of Echinodermata

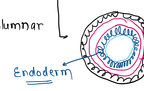
Development Stage (Echinodermata)
** Larva (Bilateral) ** Adult (Radial)

3. Germ layer formed during Embryonic development

Two [Diploblastic]
* Porifera
* Coelenterata
* ctenophora
Outer => Ectoderm
Inner => Endoderm

Three [Triploblastic]
* Platyhelminthes
↓
chordata
outer => Ecto derm
middle => meso derm
Inner => Endo derm

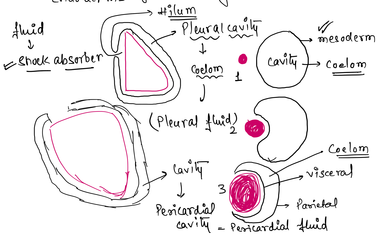




4 Coelom :→ Body cavity lined with mesoderm.

Embryonic stage → lined → Coloumnar / squamous / cuboidal / columnar
Intestine
central
Basal nuclei

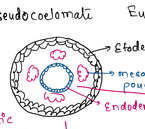
Ectoderm
Mesoderm
Endoderm
Three germinal layers.



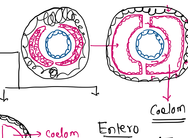
Basis (Coelom)
- Acoelomate
- Pseudocoelomate
- Eucoelomate

• Porifera
• Coelenterata
• ctenophora
• Platy helminthes =>
Diploblastic

** (Triploblastic acelomate)



eg. Aschelminthes
(Triploblastic pseudocoelomate)



Schizocoelomate
(Coelom formed by separation of cells)

Enterocoelomate
↓
(mesoderm from Endoderm)
* eg Echindodermata
↓
chordata

(Gut = Enteron)
xeg. * Annelida
* Arthropoda
* Mollusca

Annelida → chordate [Eucelomate]

5. Segmentation :→

• Body should be divided externally as well as internally
↓
(septum)

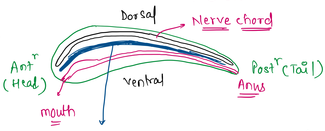
• Serial repetition of some organ in more than one segment

• each segment should have separate blood & nerve supply.

** Annelida => True segmentation => Metamerism

" Segmented organism => " Annelida, Arthropoda and chordata " "

6. Notochord



(Dorsally) ← solid, mesodermal in origin present between the nerve chord and gut => Notochord

" It is formed in any stage of development "

✓ organisms are kla chordates ✓

In which Notochord Not formed at all => kla Non-chordates
*** (eg. Porifera to hemichordata)