

## 2.1 CLASSIFICATION OF ANIMAL

Animal is classified into (i) invertebrate (ii) Vertebrate Animal

### 2.1.1 INVERTEBRATE ANIMAL

These are animal without backbone. They can be represented by a formula named "PCPNAMAE"

P == Protozoa

C == Coelenterata

P == Platyhelminthes

N == Nematoda

A == Annelida

M == Mollusca

A == Anthropoda

E == Echinodamata

(A) PROTOZOA: They are tiny organism that live in water e.g "Amoeba, Paramecium, Plasmolium"

Features/Characteristics

- i. They reproduce asexually by binary fission.
- ii. They have eucayotic cell.
- iii. They are aquantic animals.
- iv. They are microscopic organism.

(B) COELENTERATA: They are aquantic animal which is more complex than protozoa e.g "Hydia sea, Jelly fish"

Features/Characteristics

- i. They are multicellular animal.
- ii. They have two body layers.
- iii. They are radially symmetrical.
- iv. They are diploblastic animal.

(C) PLATYHELMINNTHES: They are refers to as flat wroms e.g "Tape worm, Liver fluke, Blood tape"

Features/Characteristics

- i. They are bilaterally symmetrical.

- ii. They have three body layers.
- iii. They are mainly parasitic
- iv. They are multicellular organisms.

(D) NEMATODA: They are known as round worms because they have cylindrical bodies e.g "hook worms"

#### Features/Characteristics

- i. They have three body layer.
- ii. They are bilaterally symmetrical.
- iii. They have round and cylindrical body.
- iv. They have false body cavity

(E) ANNELIDA: They are segmented worms with long cylindrical bodies e.g "tube worm, earth worm"

#### Features/Characteristics

- i. They have three body layer.
- ii. They are bilaterally symmetrical.
- iii. They have two opening mouth and anus.
- iv. They have long cylindrical body.

(F) MOLLUSCA: They are marine animal, They live in aquatic & some on land. e.g "snail, Octopus"

#### Features/Characteristics

- i. They are triploblastic animal.
- ii. They have soft unsegmented body.
- iii. Some are aquatic, while some are terrestrial.
- iv. Some have shell, while some don't have shell.

(G) ARTHROPODA: This is the largest phylum in the animal kingdom it is divided into it class.

- (i) Crustacea e.g "Crab, prawns, Lobster "
- (ii) Insecta e.g "Cockroach, Housefly, Termites"
- (iii) Arachnida e.g "Spiders, Scorpions, Ticks"
- (iv) Myriapoda e.g "Centipede , Millipedes"

#### Features/Characteristics

- i. They have segmented body.

- ii. They have three body layer.
- iii. Their body are bilaterally symmetrically
- iv. Some are aquatic, while other are terrestrial

(H) ECHINODAMATA: They are skinned animal e.g "Starfish , Sea cycumber"

#### Features/Characteristics

- i. They are radially symmetrical.
- ii. They are mainly marine animal.
- iii. They have neither head nor brain.
- iv. The bodies not segmented.

### 2.1.1 VERTEBRATE ANIMAL

These are animal with backbone, Vertebrate is a sub-phylum of the phylum "Chordata".

#### General features of Vertebrate Animal

- \* They have 2 pair limbs
- \* They have well developed sense organ
- \* They have 3 body layer
- \* They have efficient excretory organ such as kidney
- \* They have bilaterally symmetrical bodies.

Vertebrate animal is divided into 5 classes which can be represented with a formular "PARAM"

P == Pices

A == Amphibian

R == Reptilia

A == Aves

M == Mammalia

(A) PICES: These are the fishes which are all aquatic. e.g: Shark, Rays, Tilapia. They are sub-divided into two groups bases on the nature of their skeletal system.

#### Features/Characteristics

- (i) They have gills which are used for gaseous exchange
- (ii) They have fins for movement in water

- (iii) They have two chambered heart
- (iv) They are oviparous animal
- (v) The skin are covered with scales but few are without scale

(B) AMPHIBIAN: They are the first vertebrate to venture out of the water and live on land. Most of them live in moist environment and return to water. e.g Frogs, Toad

#### Features/Characteristics

- (i) They are cold blooded animal (Poikilothermic)
- (ii) They have 3 chambered heart
- (iii) They do not show parental care
- (iv) They live both in water and land
- (v) They have poisonous gland

(C) REPTILIA: They are first group of vertebrate to have become completely adapted to live on land. e.g: Snake, Lizard, Tortoise.

#### Features/Characteristics

- (i) They are poikilothermic animal
- (ii) They have lungs for gaseous exchange
- (iii) They have 2 pair of limbs except snake
- (iv) They have dry skin covered with scale
- (v) Some are aquatic, while other are terrestrial

(D) AVES: This class includes all type of birds both flyless and flying birds. e.g: Domestic fowl, Sparrow, Pigeon

#### Features/Characteristics

- (i) They have 2 pair of limbs
- (ii) They have lungs for gaseous exchange
- (iii) They have beak for feeding
- (iv) They show parental care to their young ones
- (v) They are warm blooded animal (homothermic)

(E) MAMMALIA: It belong to the group which is the most advance animal in most mammals. e.g: Gorilla, Lion. They are subdivided into 14 orders. Some are egg laying mammals, while other lack placental and keep their young ones in pouch. e.g: kangaroo.

#### Features/Characteristics

- (i) They are viviparous animal

- (ii) Their skin contains gland, sweat gland, sebaceous gland.
- (iii) They have 3 body layer
- (iv) They have fore-limbs and hind-limbs
- (v) They have well developed brain

## 2.2 ORGANISATION OF LIFE

LIFE: is highly organised and this organisation occurs in steps or levels. The simplest one interact to build up the complex one and so on.

## 2.3 LEVEL OF ORGANISATION

### CELL

- \* The cell is the smallest basic unit of life
- \* All plant and animals are made up of cell
- \* Organism which exist at cell level include: Amoeba, Paramecium, Euglena
- \* Cells in plant are Phloem cell, Xylem cell
- \* Cells in animal are White blood cell, Red blood cell

### TISSUE

- \* This is the second level of organisation of life, similar cell aggregate together to perform specific function. The aggregation of similar cells performing a specific function is called Tissue. Organism which exist at tissue include: Hydra, Fungi, Algae
- \* Tissue in plants are Epidermal tissue, Collenchyma tissue
- \* Tissue in animal are Bone, Cartilage, Blood

### ORGAN

- \* This is the third level of organisation of life, Organ are formed while similar tissue aggregate together to perform a specific function
- \* Organ in plant are Root, stem, leaves, flower
- \* Organ in animals are Heart, liver, eye, lung, skin

### SYSTEM

- \* This is the fourth and last level of organisation of life, system are formed when similar organ aggregate together to perform a specific function.
- \* System in plants are Root system and shoot system
- \* System in animals are Digestive, excretory, respiratory, reproduction.

## REVISION EXERCISE

- [1] Animal is classified into how many?
- [2] List the classification of animals
- [3] What are poikilothermic animal
- [4] What are homothermic animal
- [5] What is vertebrate and invertebrate animal
- [6] Differentiate btw vertebral & invertebral animals
- [7] What is Cell, tissue, organ, system
- [8] Give a well label diagram of amoeba
- [9] Toads frog belong to what phylum
- [10] What are viviparous and oviparous animal

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