Classification of Animal Kingdom

Zoology : Scientific study of the structure, form and distribution of animals.

Animals kingdom of the world is divided into two sub-kingdoms :

(i) Unicellular animal

(ii) Multi-cellular animal.

Unicellular animals are kept in a single phylum Protozoa whereas multi ellular animals are divided into 9 phylums.
Classification of animals according to Storer and Usinger –

A. Phylum Protozoa : Main features – Unicellular

(i) It's body is made of only one cell.

(ii) There is one or more nuclei in its cytopl sm.

(iii) Are both the types commensalism nd arasite.

(iv) All the metabolic activity (eating, gestion, respiration, excretion, reproduction) takes place in uni ellular ody.

(v) Respiration and excret take pla e by diffusion.

Example – Amoeba Euglena, ypanosoma etc.

B. Phylum Porifera All anim of this group are found in marine water & bear pores i body.

(i) These a m llular animals but cells do not make regular tissues.

(ii) Num ous p es known as ostia found on body wall.

(iii) Skeleton made up of minute calcareous or silicon spicules. Example – Sycon, Sponge tc.

C.Phylum Coelenterate : Main features – Coelenteron is present

(i) Animals are aquatic and diploblastic.

(ii) Around the mouth some thread-like structure are found known as tentacles, which help in holding the food.

(iii) Body radial symmetry.

(iv) Specialized cnidoblast cell are found help in catching the food.

Example – Hydra, Jelly fish, Sea Anemone etc.

D.Phylum Platyhelminthes : Main features – Flat worm

(i) Triploblastic and no body cavity.

(ii) Dorso-ventraly flattened animal.

(iii) Alimentary canal with single opening, anus abse t.

(iv) Excretion takes place by flame cells.

(v) There is no skeleton, respiratory organ circulato y sys em etc.

(vi) These are hermaphrodite animal

Example – Planaria, Liver fluke Tape worm etc.

E.Phylum Ascheleminth s Main atures – Round worm

(i) Long, cylindrical, un gmen ed worm.

(ii) Bilaterally symm trical an triploblastic.

(iii) Alimentary canal is plete in which mouth and anus both are present.

(iv) There is circul ory & respiratory systems but nervous system is develop d.

(v) Excretion akes place through Protonephridia.

(vi) They are un sexual.

(vii) Most form are parasitic but some are free living in soil & water.

Example – Round worm, like – A scaris, Thread worm, Wuchereia etc.

Note : (i) Enterobius (pin worm / thread worm) – It is found mainly in the anus of child. Children feel itching and often vomits. Some children urinate on the bed at night. (ii) Filarial disease is caused by Wuchereia bancrofti.

F. Phylum Annelida : Main features – Annulus body Bearing ring

(i) Body is long, thin, soft and metamerically segmented.

(ii) Locomotion takes place through Setae made up of Chitin.

(iii) Alimentary canal is well developed.

(iv) Normally respiration through skin, in some animals it takes plac through coelom.

(v) Nervous system is normal and blood is red.

(vi) Excretion by nephridia.

(vii) Both unisexual and bisexual.

Example : Earthworm, Nereis, Leech etc.

Note : There are four pairs of heart in rthworm.

G.Phylum Arthropoda : Ma n featu es – Jointed leg

(i) Body is divided into ee p ts – Head, Thorax and Abdomen.

(ii) Body is covered with a thi k chitinous exoskeleton.

(iii) Joi ed le

(iv) Circulato system is open type.

(v) Its bod cavitys are called haemocoel.

(vi) Trachea, b ok lungs, body surface are respiratory parts.

(vii) These are mainly unisexual and fertilization takes place inside the body.

Example – Cockroach, prawn, crab, bug, fly, mosquito, bees etc.

Note : (i) There are six feet and four wings in insects, (ii) There are 13 chamber in the Cockroach's heart, (iii) Ant is a social animal which reflects labour division, (iv) Termite is also a social animal which lives in colony.

H. Phylum Mollusca : Main features – Soft bodies animal

(i) Body is soft divided into head and muscular foot.

(ii) Mantle is always present in it, which secretes a hard calcareous shell.

(iii) Alimentary canal is well developed.

(iv) Respiration takes place through gills or ctenidia.

(v) Blood is colourless.

(vi) Excretion takes place through kidneys.

Example – Pila, Octopus, Loligo, Squid etc

I. Phylum Echinodermata : Main feature – Spiny kin

(i) All the animals in this group are m rine.

(ii) Water vascular syst m is res nt.

(iii) There is Tube feet for lo omotion, t king food which works as sensation organ.

(iv) Brain is not dev loped in ervous system.

(v) The is a pecial c p ity of regeneration.

Example : S fish, Sea urchin, Sea cucumber, Brittle stars etc.

Note : Th work f the Aristotle lantern is to chew the food. It is found in sea urchin.

J. Phylum Cho data : Main features

(i) Notochord is present in it.

(ii) All the chordates are triploblastic, coelomate and bilaterally symmetrical.

(iii) A dorsal hollow tubular nerve cord and paired pharyngeal gill slits are other features of chordates.

According to classification there are two sub phyla in Chordata.
(a) Protochordates and (b) Vertebrata

Some main groups of phylum Chordata :

1. Pisces : Main features – Aquatic life

(i) All these are cold blooded animals.

(ii) Its heart pumps only impure blood and have two chamber

(iii) Respiration takes place through gills.

Example : Hippopotamus, Scoliodon, Torpedo, et

2. Amphibia : Main features – Found both n nd & water

(i) All these creatures are amphibian.

(ii) All these are cold-blooded.

(iii) Respiration takes place th oug gill, s in and lungs. Heart have three, chamber two auricles and one ventri le.

Example : Frog, Nect , To d etc. Icthyophis, Salamander.

Note : In fact the c aking of ogs is the call for sex.

3. Rep lia : M in featu – Crawlling animal

(i) Land vert b ate, co d-booded, terrestrial or aquatic vertebrates.

(ii) It cont ns two pair of limbs.

(iii) The skeleto is completely flexible.

(iv) Respiration takes place through lungs.

(v) Its eggs are covered with shell made up of Calcium carbonate.

Example : Lizard, snake, tortoise, crocodile, turtle, sphenodon etc.

Note : Mesozoic era is called the era of reptiles.

1. Cobra is the only snake which makes nests.

2. Heloderma is the only poisonous lizard.

3. Sea snake which is called Hydrophis is the world's most poisonous snake.

4. Aves : Main features – Warm blooded tetrapod vertebrates with flight adaptation.

(i) Its fore-feet modified into wings to fly.

(ii) Boat shaped body is divisible into head, neck, trunk and tail

(iii) Its respiratory organ is lungs.

(iv) Birds have no teeth, beak help in feeding.

Example : crow, peacock, parrot etc.

Note : (i) Flightless Birds–Kiwi and E us. (Larges alive bird is Ostrich. (iii) Smallest bird is Humming bird. (iv) L gest zoo India is Alipur (Kolkata) and the largest zoo of the world is Cruiser Nati al Park in South Africa.

5. Mammalia : Main feat res

(i) Sweat glands and glands are found on skin.

(ii) All these anima are warm blooded.

(iii) Its earts e divide i o four chamber.

(iv) Tooth co s twice in these animals. (Diphyodont)

(v) There no nucleus in its red blood cells (except in camel and lama).

(vi) Skin of mammal have hair.

(vii) External ear is present.

Mammals are divided into three sub-classes :

(i) Prototheria – It lays eggs. Example – Echidna.

(ii) Metatheria – It bears the immature child. Example – Kangaroo.

(iii) Eutheria – It bears the well developed child. Example – Human.

Note : (i) In mammal the highest body temperature is of goat. (Average 39 degree Celsius). (ii) Echidna and Duck billed Platypus are the egg laying mammal.