

High Yield Hints - Non Chordata and Chordata

1. **Choanocytes** or Collar cells of Sponges are concerned with intracellular digestion. Amphiblastula is the typical larval form of Leucosolenia, Ascon and Sycon sponges. The Spicules of Hexactinella and Hyalonema (Glass Sponge) are Siliceous but in Euspongia (Bath Sponge) the Spicules are formed of Spongin. Gemmules of sponges are composed of Amoebocytes. The sponge larva Planula has phylogenetic significance because it is believed to be the ancestor of Bilateria.
2. The Nematocysts of Hydra are Penetrant and Glutinent type. Physalia (Portuguese man of War) is a polymorphic form with zooids like Gastro zooid (feeding), Gonozooid (reproduction), Dactylozooid (protection) and Pneumatophore (floating). In Aurelia (Jelly fish), the Planula larva becomes Ephyra during development. Alconium or "Dead man's Finger" belongs to the class Anthozoa. Coral is formed of Calcium carbonate. The single polyp in the coral colony is called as **Corallite** and the colony as **Corallum**. Some of the common marine coelenterates are Pennatula (Sea Fan), Virgularia (Sea Whip), Gorgonia (Sea Fan) etc. Lakhsdeep, Rameswaram and Fiji are Coral islands.
3. **Muller's larva** is the larval form of Marine platyhelminth Polyclad. Liver Fluke live in the bile duct of sheep. It causes Liver rot disease in Sheep. It is a Hermaphrodite. The Laurer's canal receives sperm and Mehlis glands secrete Shell around the egg. The intermediate host of liver fluke (Fasciola) is the pond snail Limnea. The larva stages of Liver fluke are in the order Miracidium-Redia-Cercaria and Metacercaria. **Blood fluke** (Schistosoma) lives in the Portal, Pelvic and Visceral veins of man.
4. Body cavity of Tapeworm (Taenia solium) is filled with Parenchyma cells (Acoelom). In Tapeworm, new segments are formed (Strobilisation) from neck and the posterior segments (Gravid segments) contain fertilized eggs. **Hexacanth embryo** (Oncosphere) is the infective stage of tapeworm. It has six hooks and enters the body of Pig and becomes **Cysticercus** or Bladder worm in the muscle. Infected pig is called as **Meshly pork**.
5. Larval form of Ascaris is **Rhabditoid**. It shows Extra intestinal migration through intestine, liver, heart, lungs and back to intestine to complete moultings.
6. Hook worm (Ancylostoma) lives in the Jejunum of man. Larval forms of hook worm are Rhabditis and Filariform larvae.
7. Filarial worm causes Elephantiasis and is characterized by fever. Fever is due to the secondary infection of Streptococcus or Staphylococcus bacteria.
8. **Heteroneries** is the sexual form of Neries. It exhibits mass migration called 'Swarming'. Larval form of Neries is **Trochophore**. Aphrodite is commonly called as "Sea Mouse".
9. Hirudo medicinalis is a leech used in Ayurvedic treatment to remove blood clots. There are 33 segments in the body of leech. Body cavity is filled with Botryoidal tissue. Hirunaria granulose is the 'Cattle leech' and Haemodipsa is the "Land leech"

10. Green glands of Prawn are located at the base of Antennae and are excretory in function. Hepatopancreas of prawn is analogous to the liver of man. There are 19 pairs of biramous appendages in prawn.
11. Cicada produces sound using Opercula. The rudimentary wings (posterior) of Mosquito are called as Halteres.
12. Monoplacophora and Neoplina are molluscs considered as Living fossils. Dentalium is commonly called as 'Elephant's tusk shell' Teredo is the 'Boring mollusc'. Glochidium larva of Mussel lives as parasite beneath the scales of fishes. Pinctada vulgaris is the common Pearl Oyster. Pila globosa (Apple snail) is an 'Amphibious mollusc which shows Aestivation.
13. **Aristotle's lantern** is the masticatory apparatus of Sea urchin. **Pedicellaria** found on the body surface of Star fish are used to clean the body.
14. Balanoglossus is commonly called as "Tongue worm".
15. Test of Ascidia is made up of **Tunicin** (Polysaccharide) and its larval form is 'Appendicularia'. It shows 'Retgressive metamorphoses. Lamprey and Hagfish are Cyclostomates.
16. **Ampullae of Lorenzini** are the sense organs of fishes. Placoid scales of Shark resemble the tooth of mammals in structure. Protopterus is the typical lung fish. Periophthalmus and Polypterus are lung fishes without internal nostrils. Anguilla is the larval form of Leptocephalus.
17. Rhacophorus is called as " **Obstetric toad**". Toxin secreted by the Parotid glands of Toad contains **Bufotalin** and **Bufogin**. Bidder's organ of toad is endocrine in function.
18. Labyrinthodontia of Devonian period evolved into Amphibians. Crossopterygian fish **Latimaria** is considered as the ancestor of Amphibians.
19. Cotylosaurus is the "Stem Reptile" disappeared during Triassic period. High temperature, lack of vegetation, increased aridity, and absence of mechanisms to protect eggs from mammals are the reasons for the extinction of Dinosaurs.
20. **Heloderma** is the only poisonous lizard. Sphenodon is a living fossil.
21. Flightless (Ratitae) birds belong to the group Palaeognathae. Ostrich (Australia, South west Asia), Rhea (South America), Kiwi or Apteryx (New Zealand) Cassowary are flightless birds. Kiwi is the smallest Ratitae. It is a Nocturnal form. Ostrich is a fast runner. It has three toes.
22. Feet of duck are webbed adapted for swimming. Feet of woodpecker are clinging and climbing type. Feet of Crow are Perching and Lifting type and Kite has Grasping and Raptorial feet.
23. Mammals evolved from reptile like Dimetrodon in Triassic period. Mammals typically have 7 cervical vertebrae. But Sloth, Sea cow and Mantee have 6 to 9 cervical vertebrae. Protothia is the only one group laying eggs (Echidna, Platypus). Corpus Callosum is absent in Marsupials (Kangaroo, Opossum). Bats belong to the order Chiroptera. Vampire bat is a blood sucking

bat. **Tree shrew** is considered as the remote ancestor of mammals. **Hognose Bat** is the smallest mammal (formerly Pigmy water shrew was considered as the smallest mammal). Dolphin is the intelligent aquatic mammal. **Echolocation** is found in Bats, Whale and Dolphins. Giraffe is the tallest mammal and Cheetah is the fastest mammal. Three toed Sloth is the slowest terrestrial mammal. Enhydra lutris is the slowest aquatic mammal. Gorilla is the largest Ape and Chimpanzee is the most intelligent Ape. Gibbon is the only Ape found in India. Closest primate relative of man is Gorilla. Blue whale is the largest living mammal (30-50 tons body weight).

24. Lemur, Loris and Tarsiers are Prosimians (before monkey). Monkey, Apes and Man are Simians. **Spider monkey** is a New World monkey found in Asia and Africa. Rhesus monkey, Langur, Gibbon, Orangutan, Chimpanzee, Gorilla, Homosapiens are New World monkeys.
25. **Palintigrade feet** (sole of foot touching ground) are seen in Man and Bear. **Digitigrade feet** (only digits touching ground) is seen in Rabbit and Elephants. **Unguligrade feet** (heels raised above the ground) are found in Cow, Deer and Horse. In Elephants, the upper two root less Incisors are modified into Tusks.