

Class Osteichthyes • General characters:

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1. The endoskeleton is cartilaginous in the embryonic stage, but in the adult forms more or less it is replaced by bones. Thus they have bony endoskeleton. They are ectothermic (cold blooded). There are about 25,000 species of bony fishes. .
2. Caudal fin usually homocercal symmetrical (Gr. homos- alike).
3. The exoskeleton, if present comprises cycloid, ctenoid or ganoid scales, which are dermal in origin.
4. The mouth is terminal. Digestive tract leads into an anus. Cloaca is absent in bony fishes.
5. External nares lie on the dorsal surface of the snout. In lung fishes internal nares are also present.
6. Bony fishes have a sac-like outgrowth, the swim bladder (also called air bladder), arising from the dorsal wall of the oesophagus, which is air-filled organ, used to maintain balance and to swim up and down. In some fishes, such as Heteropneustes, it helps in respiration.
7. They have 4 pairs of gills which are covered by an operculum on each side.
8. The heart is 2-chambered (one auricle and one ventricle) and also has sinus venosus and conus arteriosus. Lung fishes have three chambered heart. (Two auricles and one

ventricle). Bony fishes have well developed renal portal system. RBCs are oval and nucleated.

9. Kidneys are mesonephric. Ammonia is chief nitrogenous waste.

10. There are present 10 pairs of cranial nerves.

11. The brain bears relatively small olfactory lobes and cerebellum.

12. Lateral line system is well developed.

13. They have internal ears which helps the fish keep its balance. The nictitating membrane in the eye of fish is well developed.

14. Fertilization is generally external. Most forms are oviparous, some are ovoviviparous. Development is direct except in *Anguilla* where development is indirect with a larva lepto- cephalous. Some bony fishes show parental care.

15. Bony fishes occur in all sort of waters— fresh, marine, brackish

Examples:

Marine Fishes — *Exocoetus*, *Hippocampus*, *Solea*, *Echeneis* (Sucker fish), *Lophius* (Angler fish).

Fresh Water Fishes — *Labeo*, *Catla*, *Clarias* (Magur), *Anguilla*, *Anabas*, *Mystus*

Thank you

