

AMPHIBIA:General characteristic features

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1. They are the first cold blooded vertebrates from evolution point of view which came to the land. Class Amphibian includes about 3,000 species.

2. They are amphibious in nature, viz. they can live on land as well as in water. They are mostly found in warm countries. They are ectothermic (cold blooded).

3. Body is divisible into head and trunk. Tail may be present in some amphibians.

4. The skin is smooth or rough having glands which keep it moist.

5. They are usually without scales, but if present they are hidden beneath the skin (e.g caecilians).

6. Paired fins are absent. Unpaired fins may be present. Two pairs of limbs are used for locomotion except caecilians.

7. The gills are present at least in the larval stage; some adult forms also carry external gills in addition to lungs (e.g., Necturus, Proteus).

8. Skull is dicondylic, i.e., with two occipital condyles for articulation with vertebral column.

9. The respiratory organs are lungs, buccopharyngeal cavity, skin and gills.

10. The heart is three chambered, having two auricles and one ventricle. In the heart, there are present sinus venosus and truncus

arteriosus. Both hepatic portal and renal portal systems are well developed. RBCs are biconvex, oval and nucleated.

11. Kidneys are mesonephric. Urinary bladder is present in frog. Larvae and tailed amphibians (e.g., salamanders) are ammonotelic. Frogs and toads are ureotelic.

12. Alimentary canal, urinary and reproductive tracts open into a common chamber called cloaca which opens outside through cloacal aperture.

13. Ear consists of internal and middle ear. Tympanum (outer membrane) covers the middle ear. The eyes have eyelids. Nictitating membrane is well developed.

14. Ten pairs of cranial nerves are present.

15. Lateral line system is found during their development.

16. Fertilisation is external. However in Salamander and Ichthyophis (blind worm) fertilisation is internal. They are mostly oviparous; however, Salamandra is viviparous. Development is mostly indirect.

17. They return to water for breeding. Male lacks copulatory organs. The metamorphosis is usually present. A fish like larva, the tadpole is present.

18. They occur in fresh water and moist land. Amphibians are not found in sea water except a few.