

2. CLASS AMPHIBIA

INTRODUCTION

Name of the class have been derived from a Latin word "Amphi" which means both.

In Greek, Amphi means dual and bios mean life.

The animals of this class have characters of both aquatic and terrestrial animals. Amphibia are considered on the border line of these two groups. Transition from aquatic life to terrestrial life is clearly indicated in amphibia.

EVOLUTION

It is believed that in Devonian period of the geological history of the earth, certain lobe fin fishes of the group dipnoi came to live in shallow water. They started crawling from one pool to another in search of food and to avoid overcrowding and competition. In this way they used to spend some time on land. These fish are believed to give rise to amphibians.

POIKILOTHERMS

They are poikilothermic or cold blooded animals i.e their body temperature is variable.

FERTILIZATION

Sexes are separate and fertilization is external. They breed in water and their larva is called **tadpole larva**.

LARVA / AQUATIC LIFE

The larva lives in water and respire through gills and swim with the help of their laterally flattened tail.

TERRESTRIAL LIFE

After developing gills during metamorphosis, they come out of water and start a terrestrial life.

GILLS

In some amphibia like *Necturus* the gills are retained throughout life.

TETRAPODS

They are tetrapods having two pectoral and two pelvic limbs. Some forms are legless e.g caecilians. They have webbed feet but fingers are without claws.

SKIN

Their skin is pigmented, smooth and glandular which is always kept moist and help in respiration.

CIRCULATORY SYSTEM

Heart in amphibia is three chambered; two auricles and a single ventricle. Two additional tubes (sometimes considered chambers) truncus arteriosus and sinus venosus are also present. Their circulatory system is not very perfect as mixing of oxygenated and deoxygenated blood takes place in the ventricle.

METAMORPHOSIS

Development takes place through metamorphosis.

EYES AND EARS (TYMPANUM)

The eyes have eyelids. A tympanum ^(eardrum) represents the ear.

RESPIRATION

In larval stages respiration takes place by gills and in adults by lungs and skin.

HIBERNATION

Most amphibians hibernate during winter. In this process they dig deep in the mud and survive by getting energy from the fat bodies deposited around their kidneys.

CLOACA

The alimentary canal, urinary and reproductive tracts open into a common chamber called cloaca which opens to the exterior.

Koracademy.com

OVI PAROUS

They are oviparous i.e they lay eggs. But they don't lay amniotic eggs (meaning that the eggs do not contain a fluid-filled sac called the amnion surrounding the developing embryo). As a result, the eggs dry out quickly in the air, forcing all amphibians to lay their eggs in the water.

EXAMPLES

Frog, toad (tailless) and salamanders, newt, necturus (tailed).

Koracademy.com