

3. CLASS REPTILIA

INTRODUCTION

The word 'Reptilia' is derived from greek word 'Repare' which means to ~~creep~~ or crawl. They are true land vertebrates.

SYMMETRY

Their bodies are bilaterally symmetrical.

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BODY PLAN

Their body can be divided into four regions; head, neck, trunk and tail.

POIKILOTHERMS

They are poikilothermic i-e cold-blooded animals.

HABITAT

They are terrestrial but some species secondarily has adapted aquatic life like aquatic snakes and turtles. Most reptiles live in temperate and tropical areas of the world.

TETRAPODS

They are tetrapods vertebrates, creatures that either have four limbs, or like snakes, are descended from four-limbed ancestors

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They are pentadactyle (having five fingers) tetrapods.

AMNIOTES

Reptiles are amniotes, that is, their eggs are protected from desiccation and other environmental problems by an extra membrane called, the amnion, which adapt them to reproduce on dry land. Other protective membranes called extra embryonic membranes i.e yolk sac, chorion, and allantois are also found.

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OVIPAROUS

Most reptiles are oviparous and lay shelled eggs with considerable amount of yolk which provide all the nutrition required by the developing embryo within the egg, hence there is no larval stage and young ones hatch out fully formed from the egg.

However, several species of squamates are viviparous.

Their eggs are covered with a leathery or calcium-based shell (partially or completely lost in some species that give birth to young ones)

FERTILIZATION

In reptiles, sexes are separate and fertilization is internal.

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SKIN

Their skin is scaly, devoid of glands. This is why skin is very dry and impervious to water.

EXOSKELETON

Exoskeleton is present in the form of nails and scales and digits are with claws. The horny epidermal scales are made of a particular kind of protein, keratin. In addition to scales, reptiles have ~~the~~ true claws (if limbs are present)

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CARNIVORES

All reptiles are carnivorous. Teeth are present on the jaws except in turtle and tortoise. Teeth adapted for holding rather than chewing prey (they swallow their prey whole rather than chew it).

CIRCULATORY SYSTEM

Heart is four chambered with two auricles, a completely or partially divided ventricle and a pair of systemic arches. Colour of blood is red due to presence of haemoglobin as respiratory pigment.

RESPIRATION

Respiration takes place through lungs which have spongy texture. Gill slits appear during embryonic stages but gills never develop in reptiles.

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EXCRETORY SYSTEM

Excretory organs are metanephric kidneys. Being adapted to live on land they are uricotelic i.e. excrete uric acid crystals to conserve water.

GEOLOGICAL HISTORY

It is believed that those amphibia which had totally departed from their aquatic environment were the ancestors of the reptiles. Reptiles were once the most dominant group on the land and that time in geological history is termed as "Age of reptiles".

Reptiles flourished in 'Mesozoic period' (225-65 million years back). Modern reptiles are the descendents of the Dinosaurs of 'Jurassic Period' (195-136 million years back). At the end of Mesozoic period change in climatic conditions and environmental hazards caused the reptiles to become extinct. Those who could survive and are found today include lizards, snakes, tortoises, turtles and the Tuatara (*Sphenodon punctatum*) of New Zealand, a specie also called living fossil.

NERVOUS SYSTEM

There are 10 pairs of cranial nerves which arise from cranium brain.

ORDERS OF CLASS REPTILIA

Class Reptilia includes the following orders:

1. Testudines (tortoises and turtles)
2. Crocodylia (alligators and crocodiles)
3. Rhynchocephalia (Tuatara)
4. Squamata

Squamata includes the suborders Sauria (lizards) and Serpentes (snakes).

SENSES OF REPTILES

They have a good hearing, and a tongue that can smell as well as taste.

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