

General character and classification of ^①

Reptilia.

B. Sc (Hons) Part II Paper - III A
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Reptiles are ectothermal terrestrial or aquatic tetrapode. They have an exoskeleton of dry epidermal scales below in some there are bony dermal plates also. The reptiles flourished in the Mesozoic era with giant dinosaurs and Plesiosaurs dominating the earth and seas. The skull has one condyle. Vertebral column is differentiated into regions, vertebrae are gastrocentrous and in living forms two vertebrae form a sacrum. Limbs are pentadactyl ending in claws. Lungs are the sole respiratory organs. Kidneys are metanephric with no nephrostomes, they are associated with conservation, excretory waste is mostly uric acid. There are 12 pairs of cranial nerves. There is a cloaca which is often complicated. Fertilization is internal because male has single or double penis. Reptiles are the first true land vertebrates, develops on land, the embryo developing within embryonic membrane.

consisting of amnion and allantois which bring about embryonic respiration and excretion; a yolk sac provides nourishment.

Class Reptilia includes the turtles and tortoises (order chelonia), lizards and snakes (order squamata) crocodiles and alligators (order crocodilia). Reptiles are the first vertebrates adapted for life on dry land.

Reptiles show advance over the amphibians in having ① dry scaly body covering adapted to life away from water.

② limbs suited for rapid locomotion

③ Further separation of oxygenated and non-oxygenated blood in the heart.

④ Complete ossification of skeleton and

⑤ eggs suited for development on land with membranes.

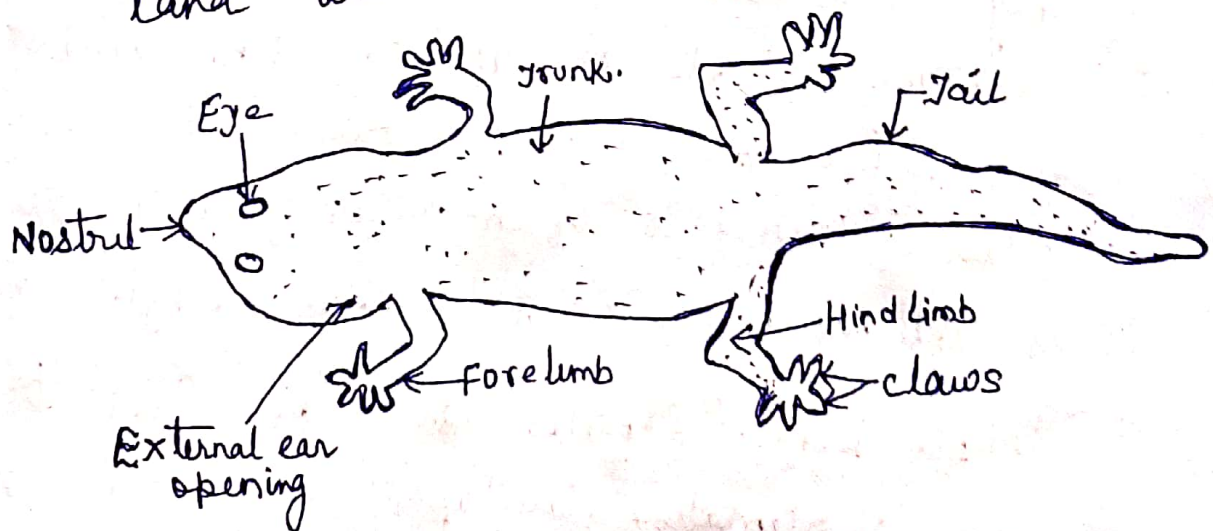


Fig - Hemidactylus.

Classification

Class Reptilia

Body Covered with dry skin. Horny epidermal scales, shields, plates and scutes from exoskeleton. Hind and forelimbs present, Fertilization internal.

Subclass (A) Anapsida

- 1. Skull roof solid.
- 2. No temporal opening behind eye

Order 1. Cotylosauria

- ① Primitive reptiles
- ② Resemble Labyrinthodont amphibians Ex: Seymouria

Order 2. Chelonia

- ① Body Broad Covered with a firm shell of rounded dorsal carapace and flat ventral plastron.
- ② No teeth, Jaws with horny sheath.

Subclass (B) Euryapsida

- ① Skull with single dorso lateral temporal opening bounded by post-orbital and squamosal.
- ② Extinct Ex Plesiosaurus.

Subclass - Parepsida

- ① Dorsolateral temporal opening in skull bounded by supra temporal and post frontal.
- ② Extinct Ex Ichthyosaurus.

Subclass (C) Synapsida

- ① Skull roof with lower opening behind eye bounded above by postorbital and squamosal.
- ② Extinct mammal like reptiles Ex Dimetrodon

Subclass (E) Diapsida

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- ① Skull roof with 2 openings behind eye separated by a bar formed by postorbital and squamosal.
- ② Extinct mammal like reptiles
Ex Sphenodon

Order ① Rhynchocephalia

- ① Living reptiles, Lizard like
- ② Scales granular

Order ② Sauramata

- ① Lizards and Snakes
- ② Skin with horny epidermal scales or shields.

Suborder ① Sauria or Lacertilia

- ① Lizards. Body slender, Limbs typically 4.
- ② Eyelids movable.

Suborder ② Ophidia

- ① Snakes, limbs, feet, ear openings
- ② Mandibles joined anteriorly by ligament

Order ③ Crocodillia

- ① Body long head large and long
- ② Jaws powerful with numerous bluntly conical teeth
- ③ Short limbs ending into claws with web.
Ex - Crocodile, Alligator.

Order ④ Saurischia

1. Ischium and Pubis diverse
2. Bipedal or huge 4 footed
Ex Dinosaurs.