Amphibia



Skeletal system

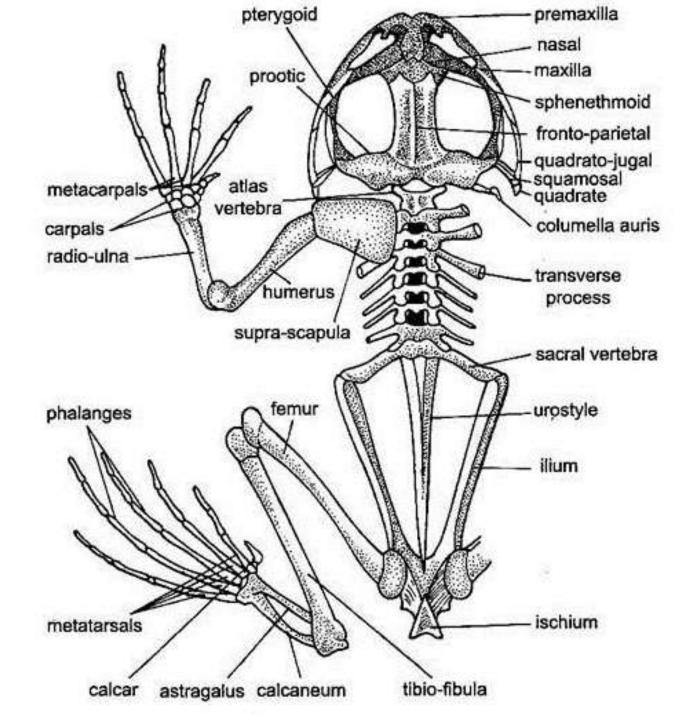
- The skeleton that supports the soft parts lies internally and is designated as the endoskeleton. It is chiefly made of bones and cartilages.
- The endoskeleton is described under two broad heads:
- (i) The axial skeleton and
- (ii) The appendicular skeleton.

• (i) The axial skeleton

The axial skeleton comprises the skull and vertebral column.

• (ii) The appendicular skeleton.

The appendicular skeleton consists of pectoral and pelvic girdles, and the skeleton of paired limbs.



Axial Skeleton

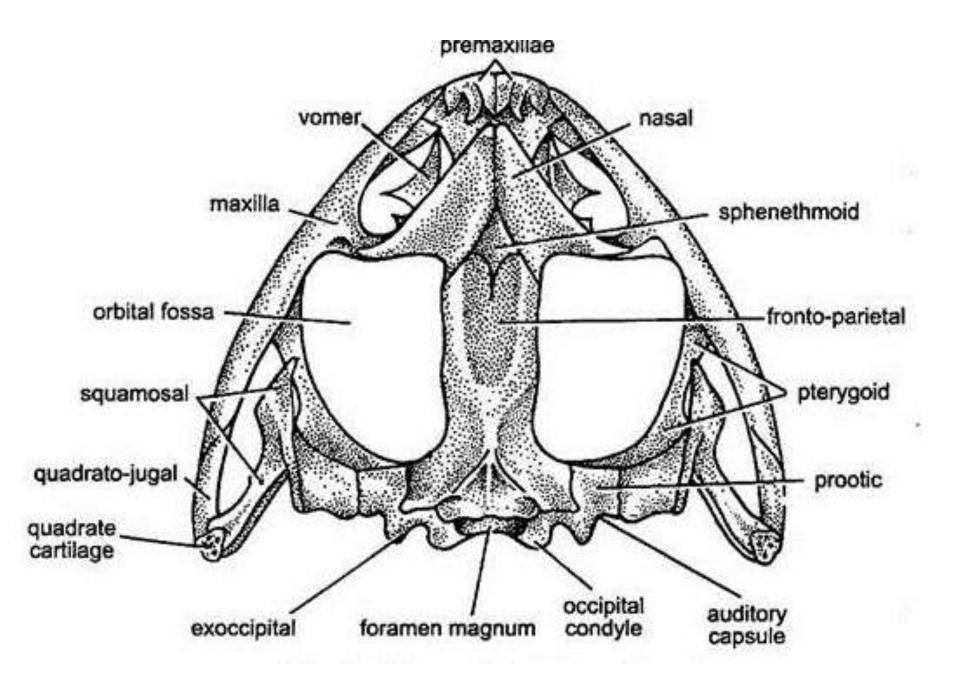
1. Skull

 The skull of frog is broad and flat and consists of a narrow cranium or brain box, paired sense capsules, the jaws and hyoid apparatus

Cranium:

 The cranium is the narrow cavity lodging the brain, hence, it is also called brain box. The cranium is formed of six bones – a pair of exoccipitals, a pair of frontoparietals, a parasphenoid and a sphenethmoid.

- In the front part of the cranium is a sphenethmoid enclosing the forebrain and olfactory sacs
- Skull is divided by a transverse partition into an anterior ethmoidal region and a posterior sphenoidal region which encloses the forebrain.
- The ethmoidal region encloses the olfactory sacs.
- Sphenethmoid is only exposed laterally.
- It is dorsally covered by a pair of nasals and a fronto-parietal except a small diamond-shaped area.
- It is ventrally covered by a dagger-shaped parasphenoid.



Occipital Segment

- At the posterior end of the cranium is a foramen magnum surrounded by two exoccipitals.
- Each exoccipital bears at its posterior end a convexity, the occipital condyle which articulates with the concavity of the atlas vertebra.

- The auditory capsule is fused on the outer side of each exoccipital.
- Each auditory capsule has a prootic in front, the capsule has an aperture, the fenestra ovalis into which a cartilaginous stapedial plate fits.

Olfactory Capsules:

- The olfactory capsules have two nasals dorsally and two vomers ventrally, the vomers bear vomerine teeth.
- A pair of special bones called septomaxillary (ethmoids) form the boundary of nostrils.
- They are associated with and surround the Jacobson's organ.

Optic Capsules:

• They enclose the eyes and are not fused with the skull.

Upper Jaw

 The upper jaw has two halves, each half has an anterior premaxilla followed by a long maxilla, both bear teeth. The posterior part of the upper jaw has a small quadratojugal. Its broad posterior end unites with quadrate cartilage.