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Dr. Rajesh Verma, Assistant Professor
and Head, U.G. Department of Zoology
O.K. College, Dumkion (Buxar). Notes
for B.Sc Part 2nd, Paper 3(A),
Unit = 3 (C).

Question: 57 :- Amphibians ka Origins and
evolution par classify karke hue
chitra सहित varnan kare..?

Answer :-

The evolution of amphibians: The
conquest of the land :-

Amphibians were the first
group of vertebrates to develop limbs
and to be able to leave the
water to conquer the land. Even
if they are seen as simple and
primitive animals by most people,
amphibians show a wide diversity
of survival strategies which have
allowed them to occupy most
terrestrial and fresh-water habitats.
On this entry we'll explain some
of the aspects related to their
evolution, explaining how our ancestors
managed to get out of the
water.

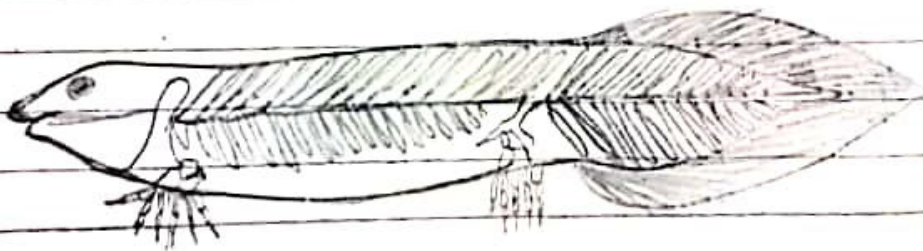
Origin of the Amphibians :-

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Current amphibians, together with reptiles, birds and mammals are found within the superclass Tetrapoda ("four limbs"), the vertebrates group that abandoned the sea to conquer the land. These first tetrapods were amphibians and they evolved around 395 million years ago during the Devonian period from lobe-finned fish named sarcopterygians (class Sarcopterygii, "Flesh Fins") within which we find the coelacanth and the current lungfish.

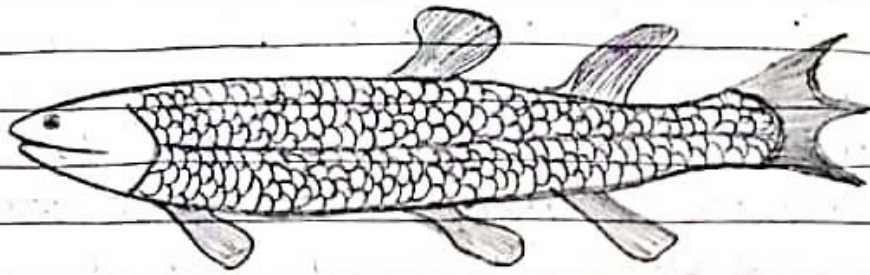


This group of fish is characterized by its fins which, instead of being formed by rays like in most bony fish, they have a bony base that allowed the subsequent evolution of the sarcopterygians, the nearest relatives of the tetrapods are the osteolepiformes, a group of tetrapodomorph fish that got extinct about 299 million years ago.

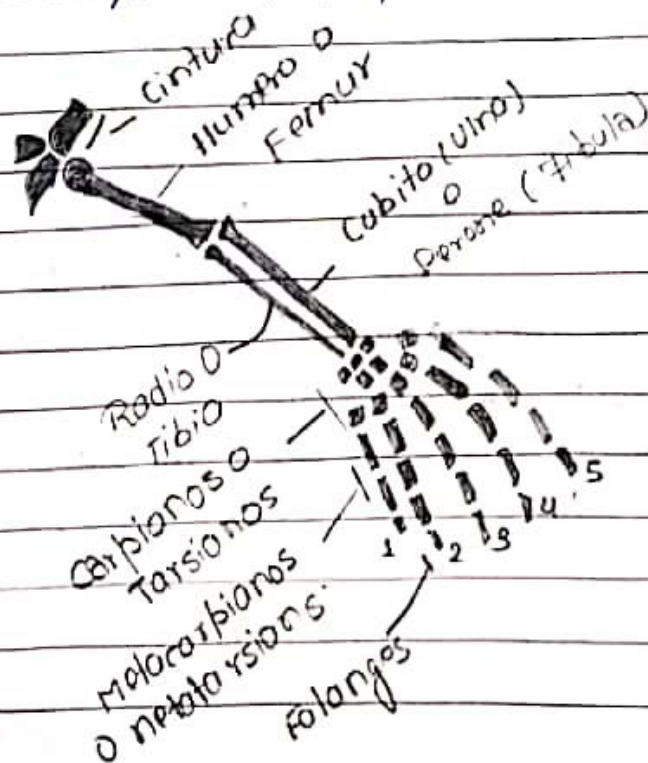
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- Apparition of the quadruped-like limb. The quadruped is the tetrapod's most basic characteristic. This limb is known for having the differentiated parts: the stylopodium (one bone, the humerus or the femur), the zeugopodium (two bones, the radius or tibia and ulna or fibula) and the autopodium (fingers, hands, toes and feet). While the stylopodium and zeugopodium derived from the sarcopterygian's fins, the autopodium is a newly-evolved structure exclusive from tetrapods.



In short, the relatives of the osteolepiformes developed the tetrapod's typical characteristics before ever leaving water, because they probably lived in brackish, shallow waters, poor in oxygen and that dried out quickly and often.

The first Amphibians:-

Probably the creature known as Tiktaalik is the closest animal to the mid-point between the osteolepiformes and the amphibians. The first recorded amphibians were labyrinthodonts meaning that their teeth had layers of dentin and enamel forming a structure similar to a maze.

