

# DIPNOI

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Dipnoi is an order of sub-class Sarcopterygia (fleshy fin), class Osteichthyes (Bony fishes) of superclass pisces. These are known as lung fishes because they have air sacs which function as lungs help in aerial respiration and gills which help in aquatic respiration i.e. double breathing.

Dipnoi originated in Devonian period and flourished in the Permian and Triassic period. They are represented now by three surviving genera. These are — *Lepidosiren* (South America), *Neoceratodus* (found in Australia) and *Protopterus* - found in Africa.

Fossil Dipnoi: The body members of this group such as *dispterus* (Devonian carboniferous) and *Ceratodus* (Triassic) showed the typical ossified skull. There was no premaxilla or maxilla, nor any teeth along the edge of the jaw; instead broad ridge tooth plate were developed on the plate.

## Habit and Habitat

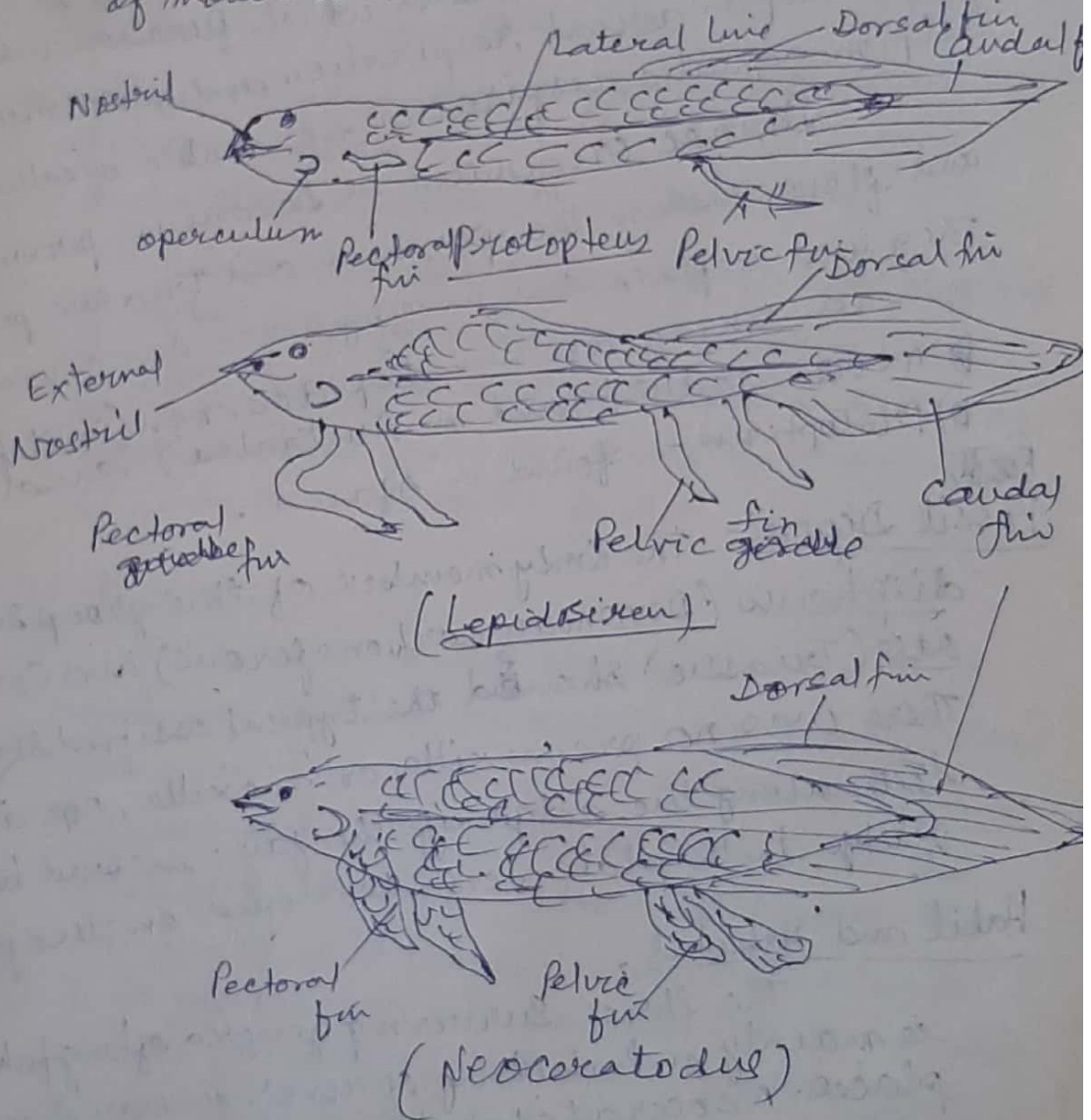
The three surviving genera of lung fishes is mainly inhabiting of river in marshy places. *Neoceratodus* do not survive outside water. *Lepidosiren* and *Protopterus* can survive even the river dry up completely.

## External Feature

- ① Body fleshy and tail fin is diphycceral.
- ② The paired fins are paddle like in *neoceratodus*; less developed in *lepidosiren* and long in *protopterus*.

(2) SAURIA

- ③ Dorsal and anal fin remain attached with caudal fin.
- ④ Gills remain covered with operculum.
- ⑤ The external nostril lies just at the end of mouth and internal nostril open into its roof.



Skeleton:

- ① ~~Exoskeleton~~ Skeleton is made up of Cyloid Scales.
- ② Scales of protopterus and Lepidosiren are minute but scales of Neoceratodus are large.
- ③ Endoskeleton is largely cartilaginous.
- ④ Autostylic jaw suspension.



(3)

- ⑤ Pectoral girdle has dorsal Scapula and <sup>Coracoid</sup> ventral
- ⑥ Pelvic girdle are not ossified.

### Alimentary canal:

- ① There are plate like teeth for crushing
- ② Main part of alimentary canal are pharynx, oesophagus, stomach, intestine, rectum and cloacal <sup>aperture</sup> opening.
- ③ Between stomach and intestine lies flap-like pyloric valve. Intestine contain a spiral valve.
- ④ Liver is large bilobed gland. Gall bladder is present. Well developed pancreas embedded in the intestine.

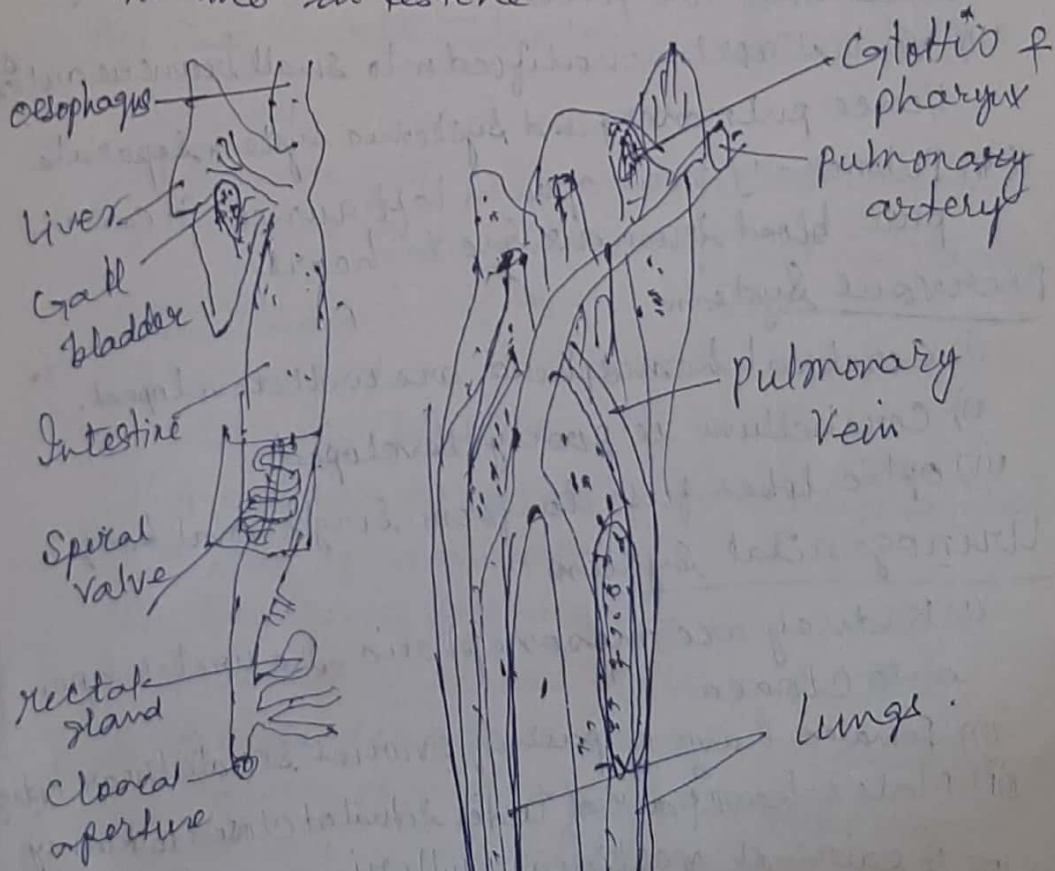


Fig - Digestive System of protopteris

Fig - Lungs of protopteris