

# Amphibians

- Amphibians are the first four limbed vertebrates/tetrapods.
- Most today live their adult lives on land.
- Most live their first stage as fish-like forms using gills for respiration and evolved to air-breathing as they become adults.
- Most evolve lungs, but some use their skins as primary or secondary respiration surfaces.
- Amphibians are cold-blooded and are all fresh-water inhabitants.
- They require moisture, must keep skin moist.
- Earliest appearance of amphibians was in Devonian Period.
- Reproduction involves eggs that are laid in water.
- Most are predators that find food by sight.
- For defense they secrete a mucous that is slippery, distasteful and in some cases poisonous. Their bright distinctive color is a warning of this to predators. The more colorful, the more poisonous.

**Tetrapod** – four limbed vertebrate , mostly terrestrial

**Class Amphibia**

**Genus *Acanthostega***



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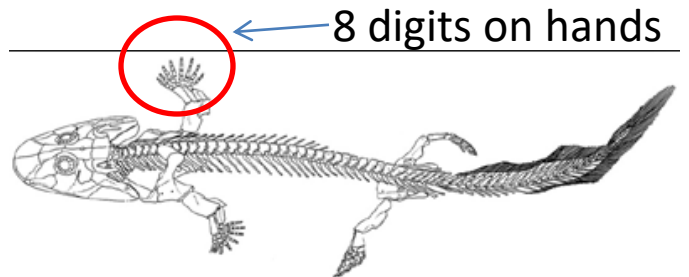
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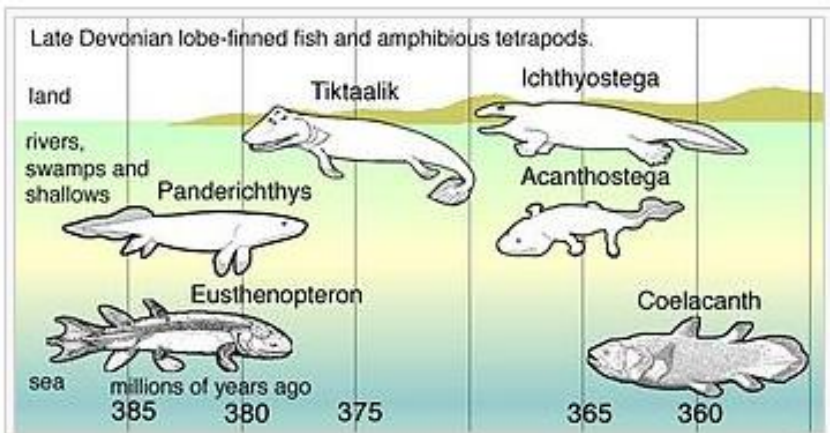
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# Amphibians (continued)



In Late Devonian vertebrate speciation, descendants of pelagic lobe-finned fish – like *Eusthenopteron* – exhibited a sequence of adaptations: \**Panderichthys*, suited to muddy shallows; \**Tiktaalik* with limb-like fins that could take it onto land; \*Stem-tetrapods in weed-filled swamps, such as: \*\**Acanthostega* which had feet with eight digits, \*\**Ichthyostega* with limbs. Descendants also included pelagic lobe-finned fish such as *coelacanth* species.

## Class Amphibia 61. Genus *Eryops*

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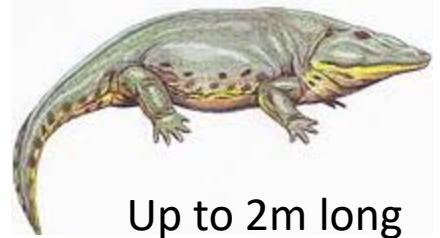
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## Class Amphibia 62. Genus *Diplocaulus*

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~ 1 m long

# TRUE Reptiles (all extinct)

## Class Reptilia

### Order Ichthyosuria (Ichthyosaurs)

Large marine, Mesozoic reptiles

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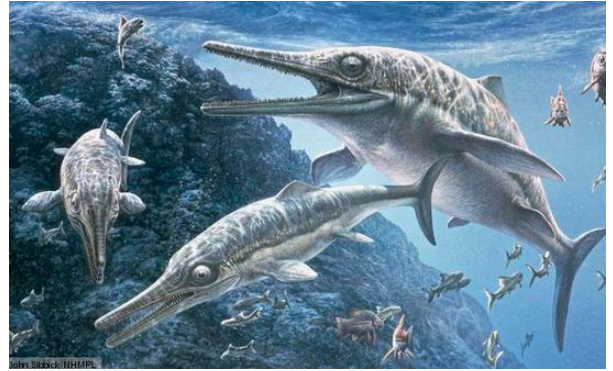
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## Class Reptilia

### Order Squamata

#### Family Mosasauridae (Mosasaurs)

During the last 20 million years of the Cretaceous period with the extinction of ichthyosaurs and the decline of plesiosaurs, mosasaurs became the dominant marine predators.



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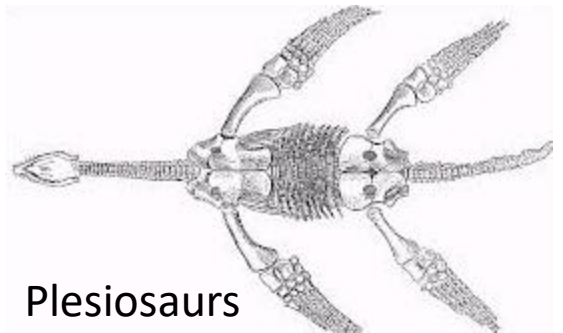
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## Class Reptilia

### Order Plesiosauria

Lived in Jurassic and Cretaceous

Plesiosaurs - long necked marine reptiles  
Pliosaurus – shorter necked marine reptiles



Plesiosaurs



Pliosaurus



# Flying “Reptiles”

## Order Pterosauria (Pterosaurs)

Late Triassic to End Cretaceous  
earliest flying vertebrates

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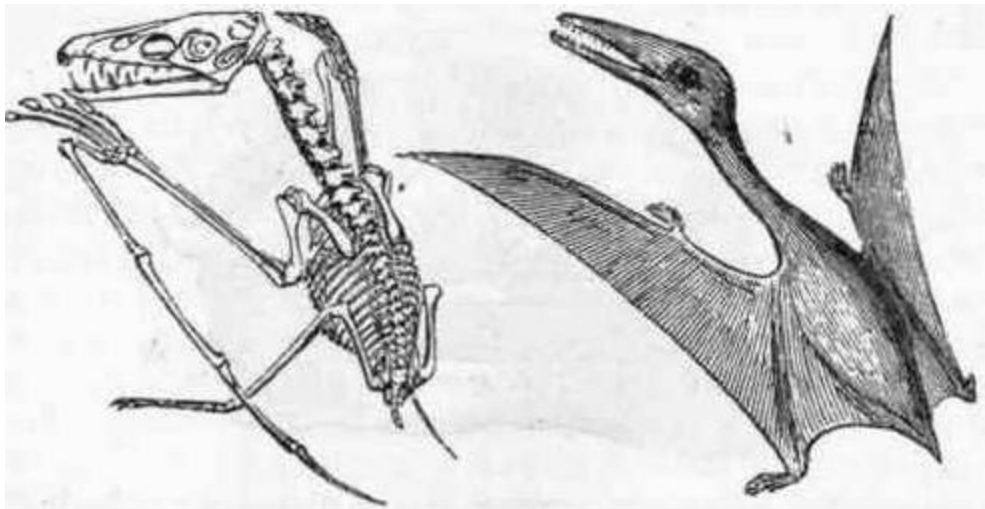
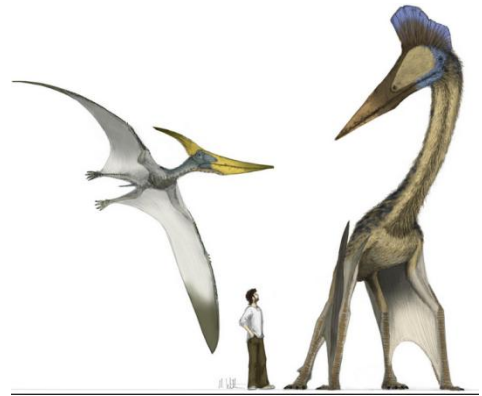
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Note the root of “saur” in these swimming and flying reptiles.  
Saur is Greek for lizard.



# TRUE Reptiles (BOTH ON THIS PAGE ARE FOR STATES ONLY)

## Class Reptilia

### Order Crocodilia (Crocodiles) \*

First appeared in Late Cretaceous  
(95 mya)



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## Class Reptilia

### Order Testudines (turtles) \*

First appeared in Middle Jurassic  
(170 mya)



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