

## Paleozoic Era—Before the Dinosaurs—Water Dwellers Part 1/3

[http://www.youtube.com/watch?NR=1&v=m94z8ejEudc&safety\\_mode=true&persist\\_safety\\_mode=1&safe=active](http://www.youtube.com/watch?NR=1&v=m94z8ejEudc&safety_mode=true&persist_safety_mode=1&safe=active)

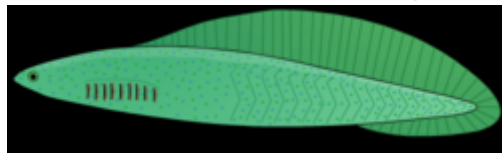
**History:** 4.4 bya Thea (wandering planet) crashes into earth—creating the moon  
Many comets crash into earth bringing water

### 530 mya—Cambrian Period—Chengjiang, China

- No life on land yet
- Ocean life abundant—many soft bodied creatures
- Coastal shallows have the 1<sup>st</sup> predators
  - **Anomalocaris—1<sup>st</sup> super-predator**—4 ft long, 1<sup>st</sup> animal with eyesight



- **Haikuichthys—1<sup>st</sup> fish—1<sup>st</sup> vertebrate**—1 cm long—ancestor of all vertebrates such as mammals, birds, dinosaurs, reptiles, amphibians, fish



- Many prey have developed exoskeletons
- **Adaptations** from Cambrian to Silurian—tails, fins, distinct heads

### 430 mya—Silurian—South Wales, UK

- **Cephalaspis** (shield head)—can detect vibration—this becomes the sense of touch



- Other common marine animals: sponges, sea urchins, orthocone (cuttlefish)

- Silurian predators

- **Brontoscorpio**—3 ft aquatic scorpion with a stinger the size of a fist



- **Pterygotus**—largest arthropod of all time—10 ft long (the size of a crocodile)—in the video, it ate the brontoscorpio as the brontoscorpio was trying to catch the cephalaspis



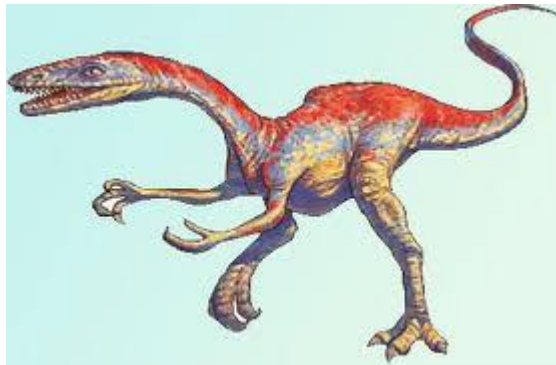
# Mesozoic Era—Walking with Dinosaurs—New Blood—Part 1/3

[http://www.youtube.com/watch?v=ZeDE0Eza928&safety\\_mode=true&persist\\_safety\\_mode=1&safe=active](http://www.youtube.com/watch?v=ZeDE0Eza928&safety_mode=true&persist_safety_mode=1&safe=active)

**History:** No Himalayas, Atlantic Ocean half its current size, no grasses, only fern prairies and coniferous forests,

## 220 mya—Triassic—Arizona

- Pangaea was still together
- Dinosaurs still rare
- **Coelophysis**—1<sup>st</sup> dinosaur—light boned, small, drought resistant predator



- **Placerias**—1 ton herbivore—more like a reptile than dinosaur



- **Cynodont**—missing link between reptiles and mammals—backbone moves side to side and lays eggs like reptiles, but is warm-blooded, has hair, nurses young, and mates for life like mammals



# Cenozoic Era—Walking with Prehistoric Beasts—A New Dawn- Part 1/3

[http://www.youtube.com/watch?v=1DrMxwqdatI&safety\\_mode=true&persist\\_safety\\_mode=1&safe=active](http://www.youtube.com/watch?v=1DrMxwqdatI&safety_mode=true&persist_safety_mode=1&safe=active)

**History:** 65 mya all animals larger than 10 kg died as a result of meteorite impact, smaller animals especially mammals and birds survived

- **49 mya—Eocene Epoch—Germany**
  - Tropical rainforests on all continents
- **Leptictidium**—1 m long kangaroo/chipmunk/rat, great sense of smell
  - **Evolutionary advantage:** warm-blooded—quick at all times unlike cold-blooded animals which are slow when it is cold (mornings)



- **Gastornis**—6 ft tall bird, flightless ostrich type predator
  - **Evolutionary disadvantages:** nested on ground, laid one egg at a time

