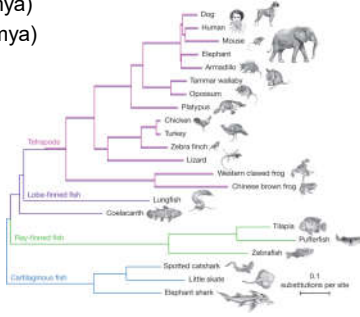


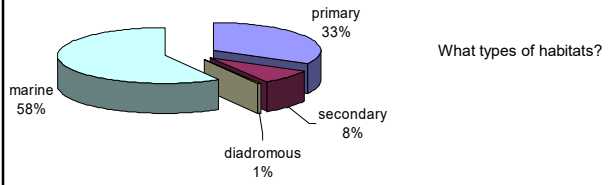


### Age of Other Craniates

- Ordovician Period (510 – 439 mya)
- End of Devonian Period (ca. 363 mya).
- Carboniferous Period (363 – 290 mya).
- Triassic Period (208 mya)
- Jurassic Period (146 mya)

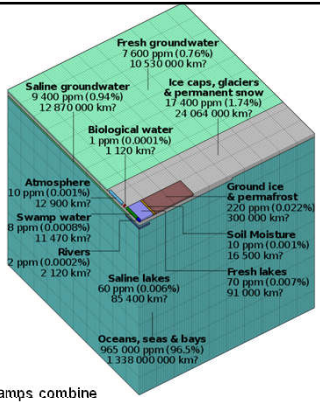
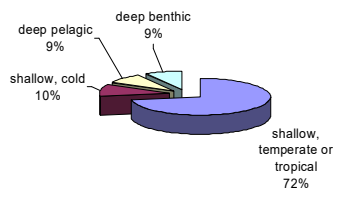


### Actinopterygii



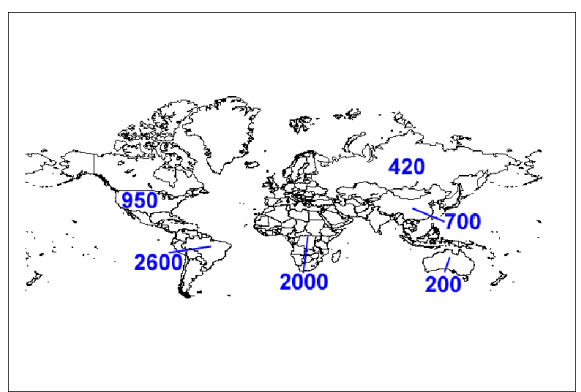
What types of habitats?

### Marine Actinopterygii



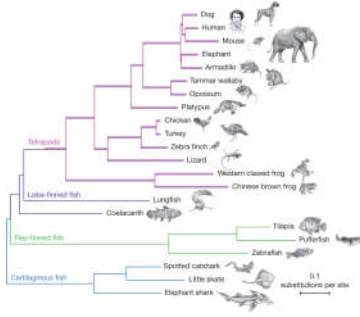
Rivers, lakes and swamps combine for <0.008% of water.  
Why are there so many freshwater fishes?

### Extant Freshwater Fish Diversity

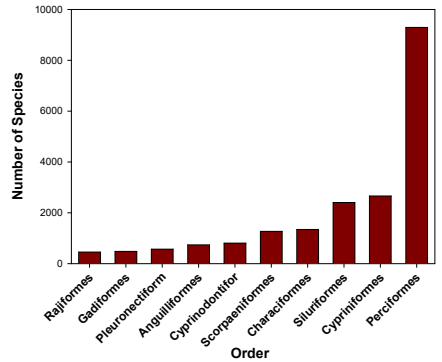


### Age of Other Craniates

- Ordovician Period (510 – 439 mya) Jawless fishes appeared and diversified
- End of Devonian Period (ca. 363 mya). Fossils representing most major lineages of fish-like vertebrates and the earliest tetrapods (Amphibia) appeared
- Carboniferous Period (363 – 290 mya). Reptile-like tetrapods
- Triassic Period (208 mya) Mammals
- Jurassic Period (146 mya) Birds



### Most Successful Orders



### Reasons for success?

- Diversity in habitat size, shape
- Skin, scales and fins
- Diversity in reproductive strategies
- Respiratory anatomy and physiology