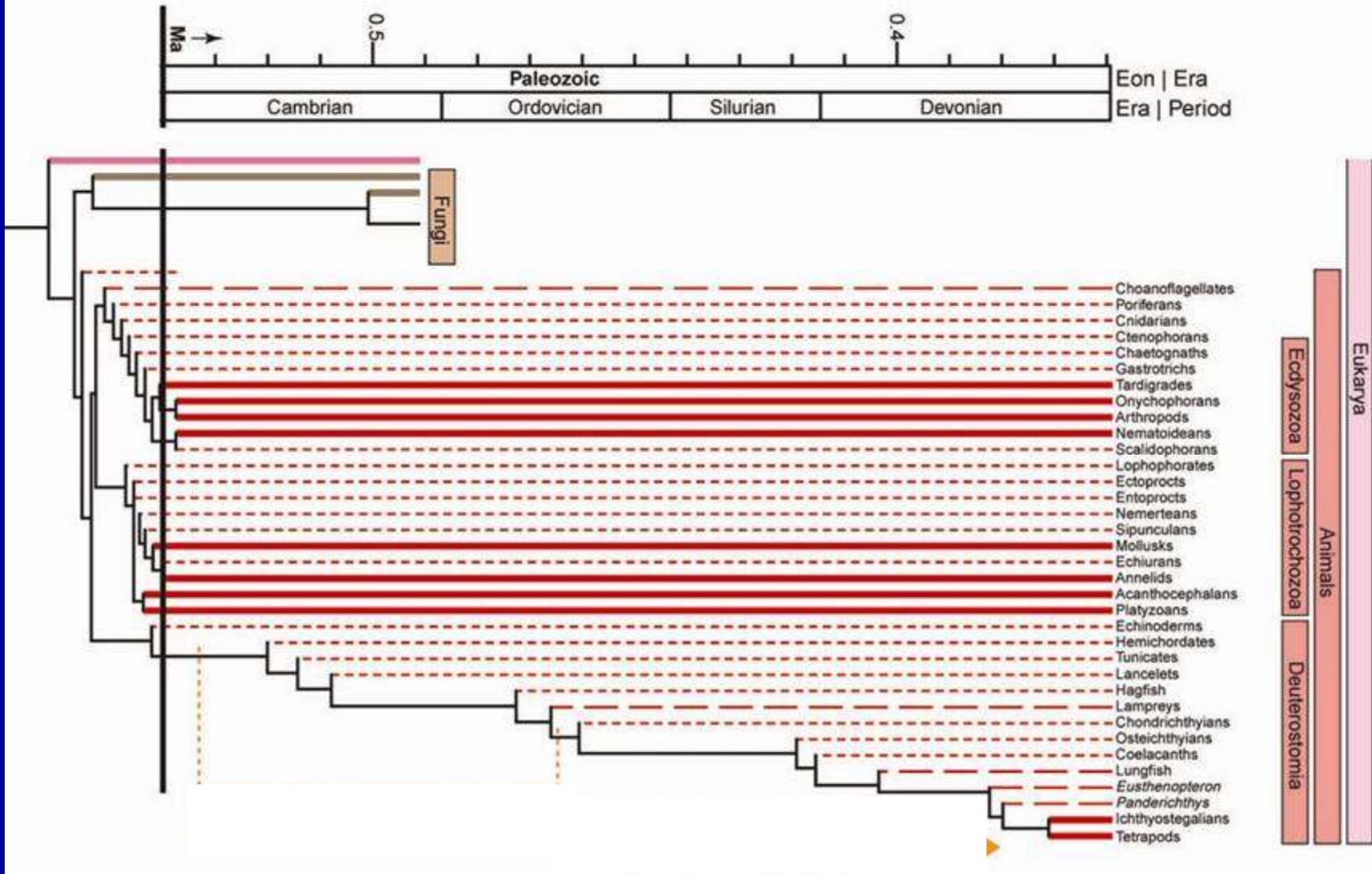


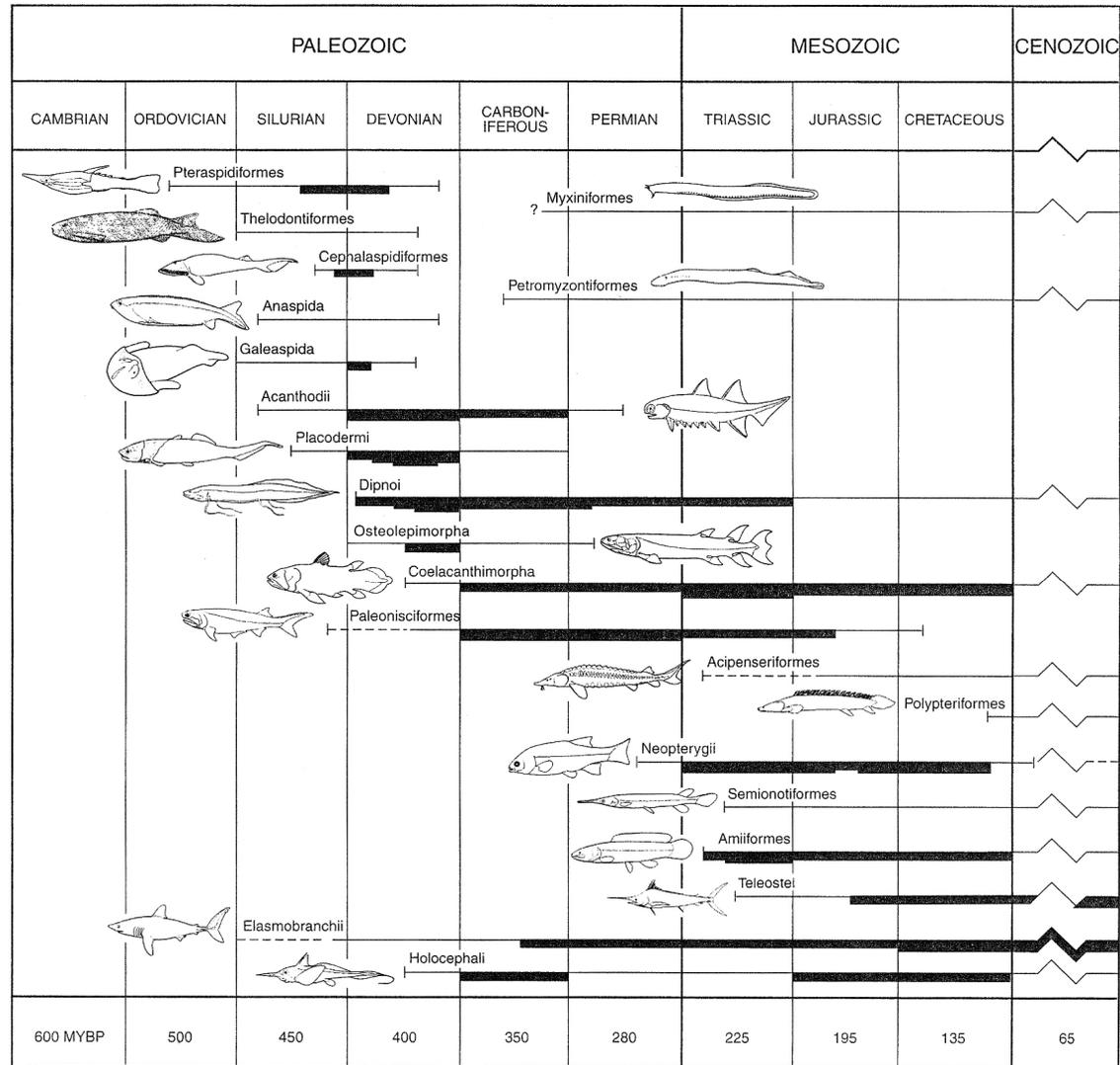
Classificação sistemática dos cordados

Prof. Dr. Sergio Floeter

1. Registro Fóssil
2. Filogenia e Diversidade dos Vertebrados
3. Sistemática dos 'Peixes'







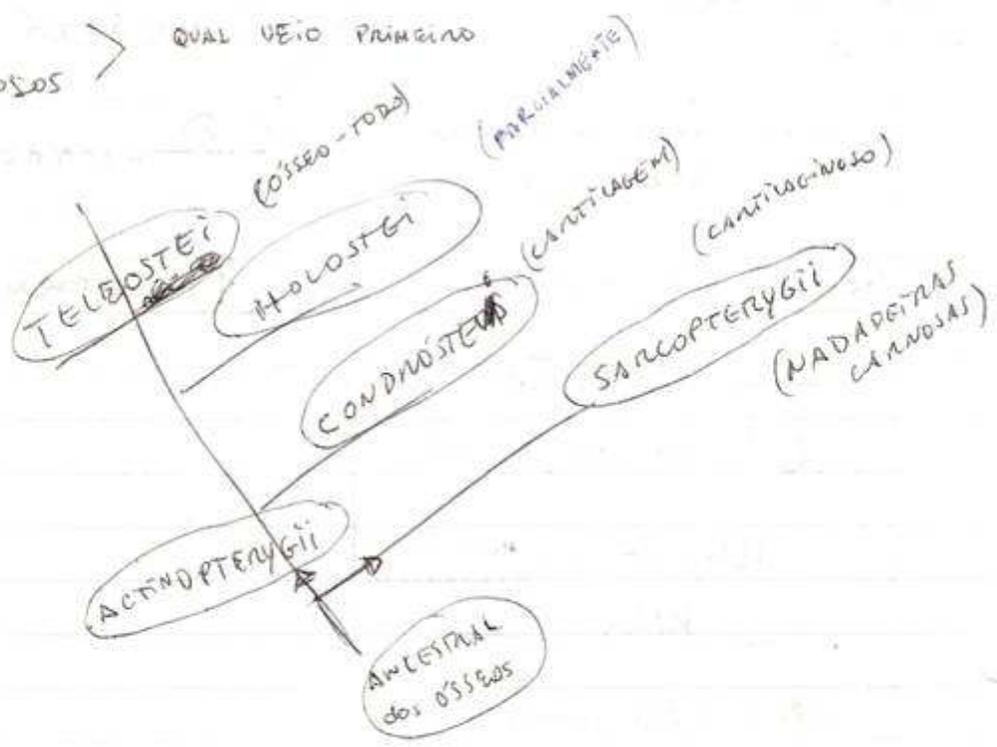
Periods of occurrence and relative diversity of major fish taxa based on the fossil record

Filogenia dos peixes

1988

OSSEOS
(?) cartilaginosos
SEM REGISTRO

QUAL VEIO PRIMARIO



NOS TELEOSTEOS:

- * NADADEIRA pélvica + perto do SNUS + ~~peitoral~~
- * peitoral baixa → PRIMITIVO
- * EHOPOMONPITS → mesmas lguas

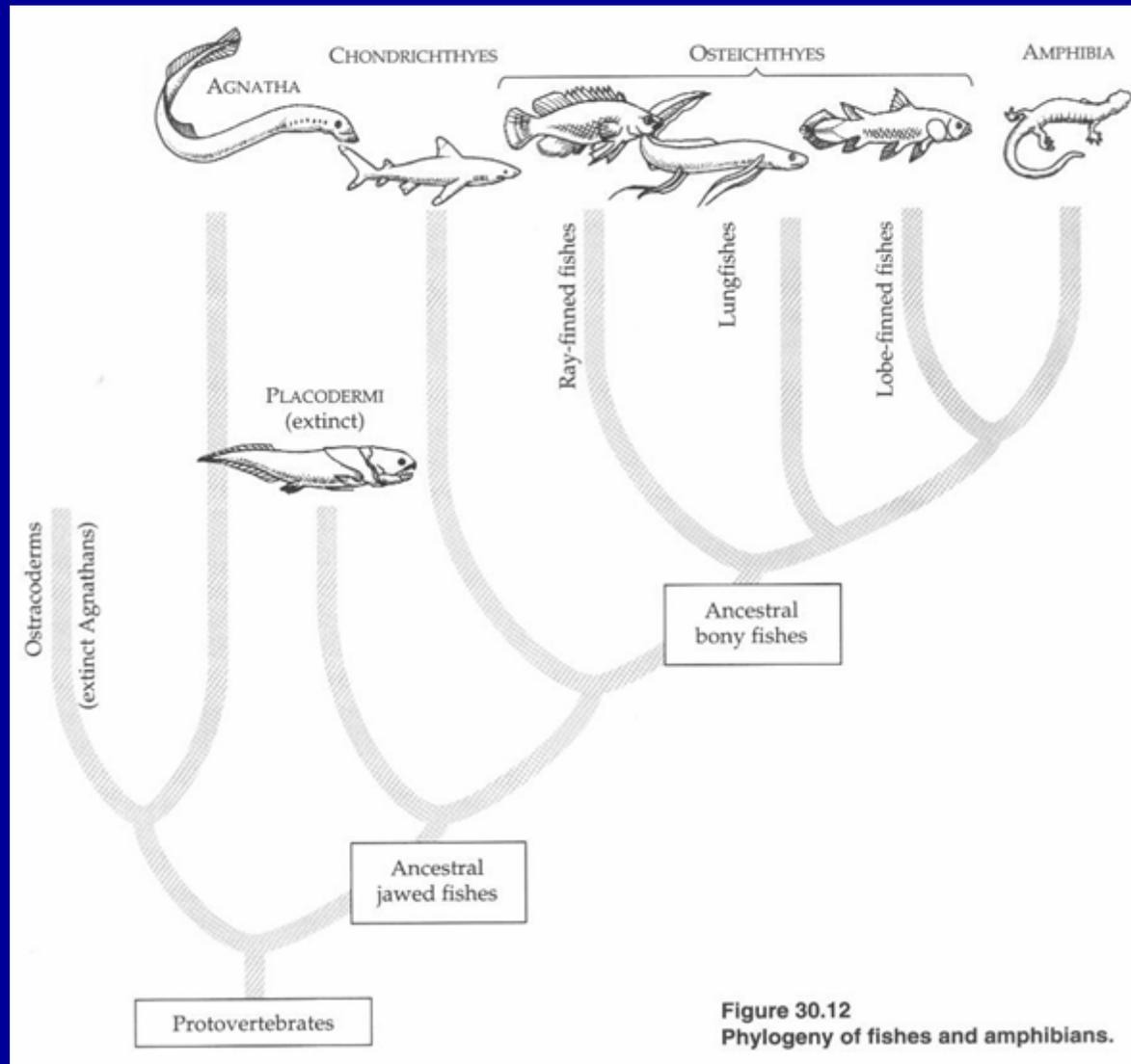


Figure 30.12
Phylogeny of fishes and amphibians.

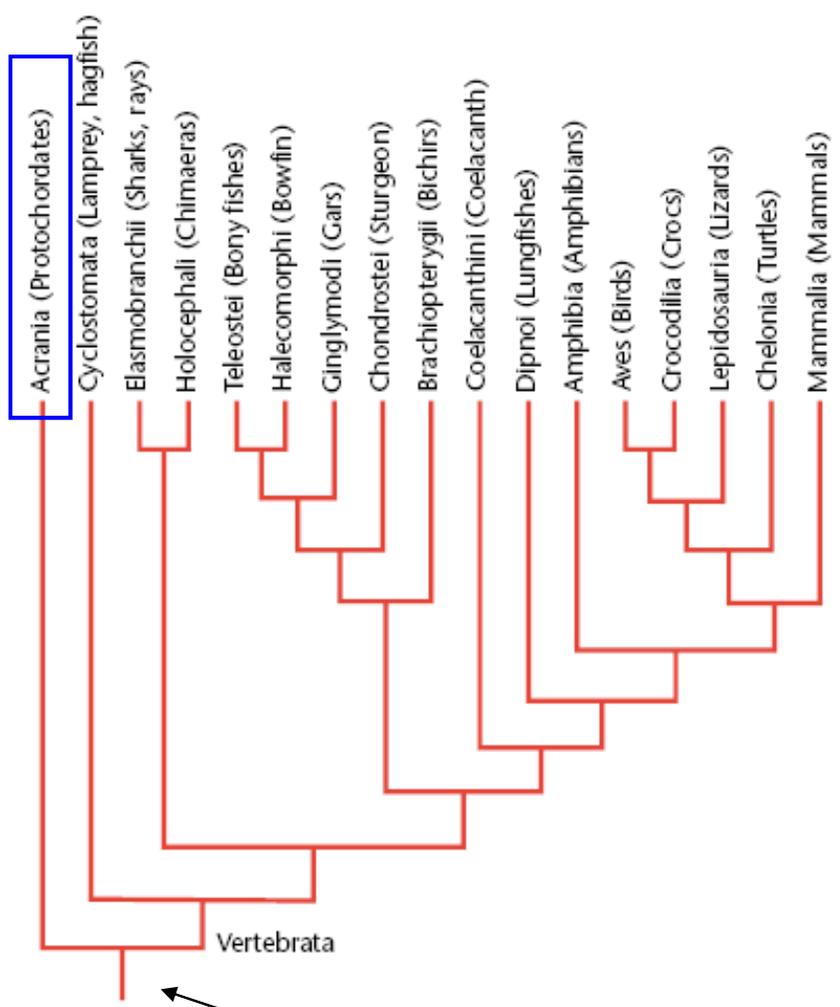


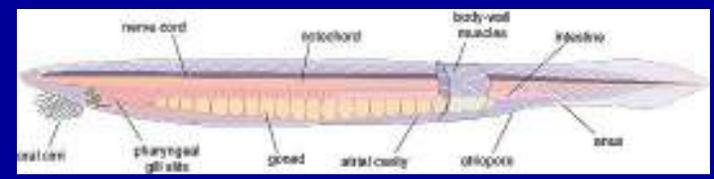
Figure 1 Phylogeny of the Vertebrata, showing evolutionary relationships of major vertebrate animal groups.

Protocordados

Anfioxo

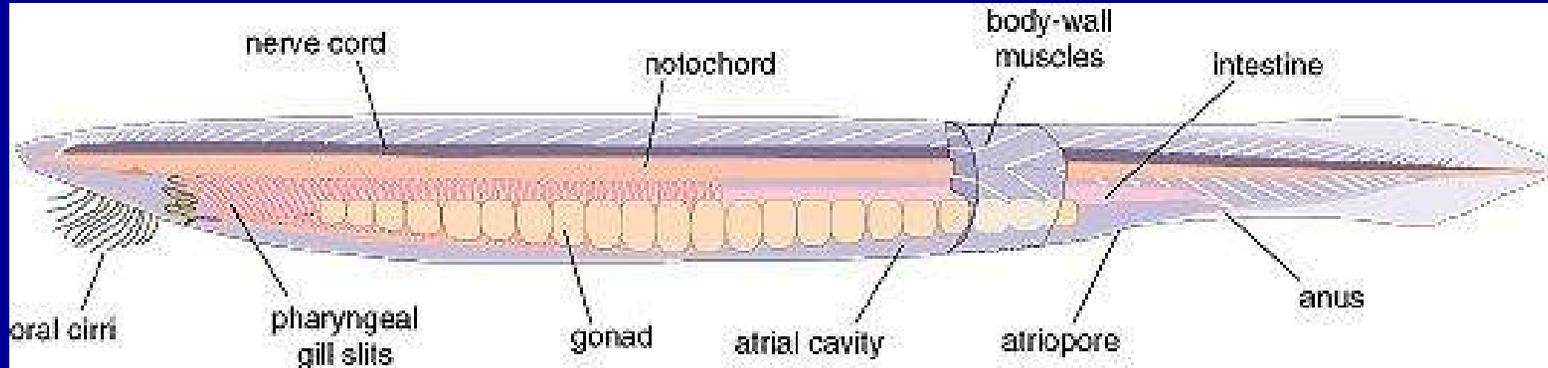
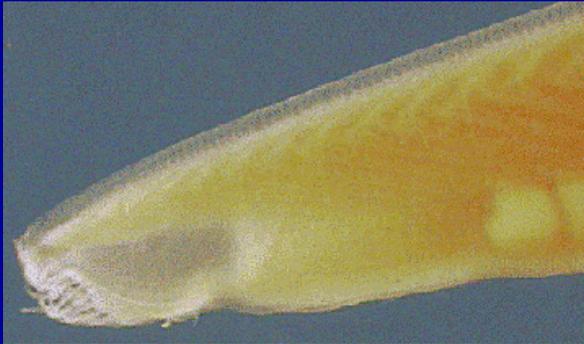
Idade: 600 M.a.?

Diversidade: 22 spp.



Protocordados

Anfioxo



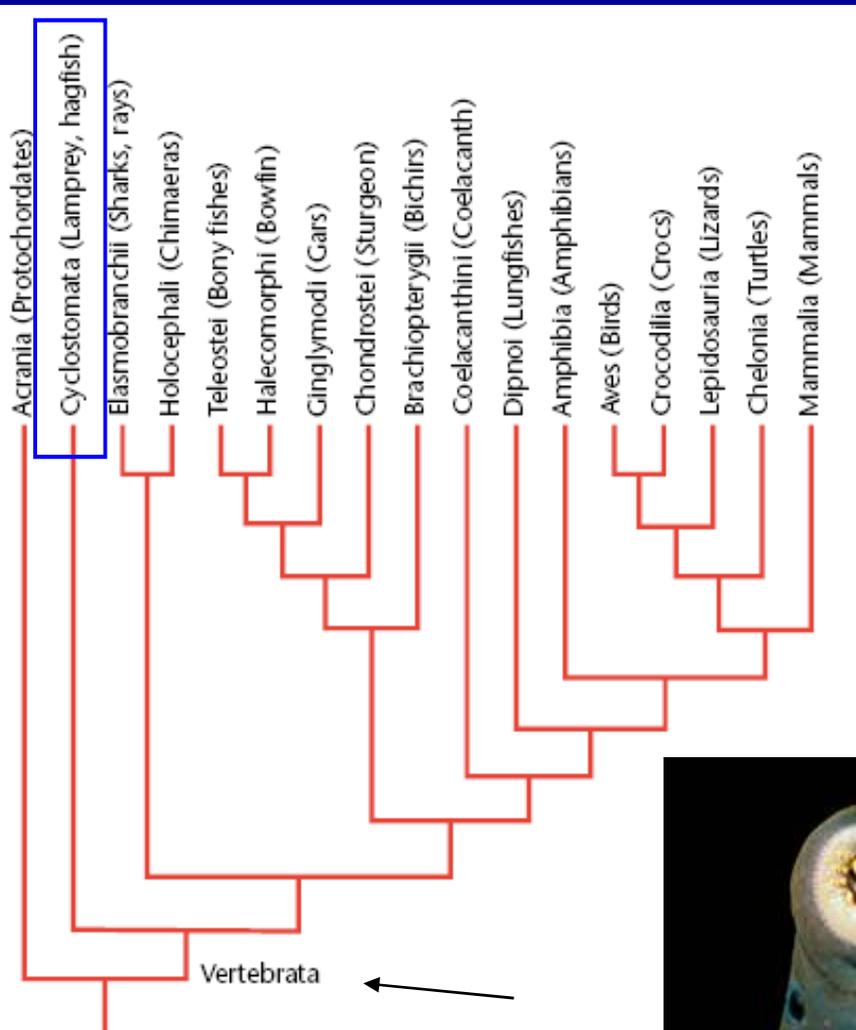


Figure 1 Phylogeny of the Vertebrata, showing evolution relationships of major vertebrate animal groups.



Agnatha

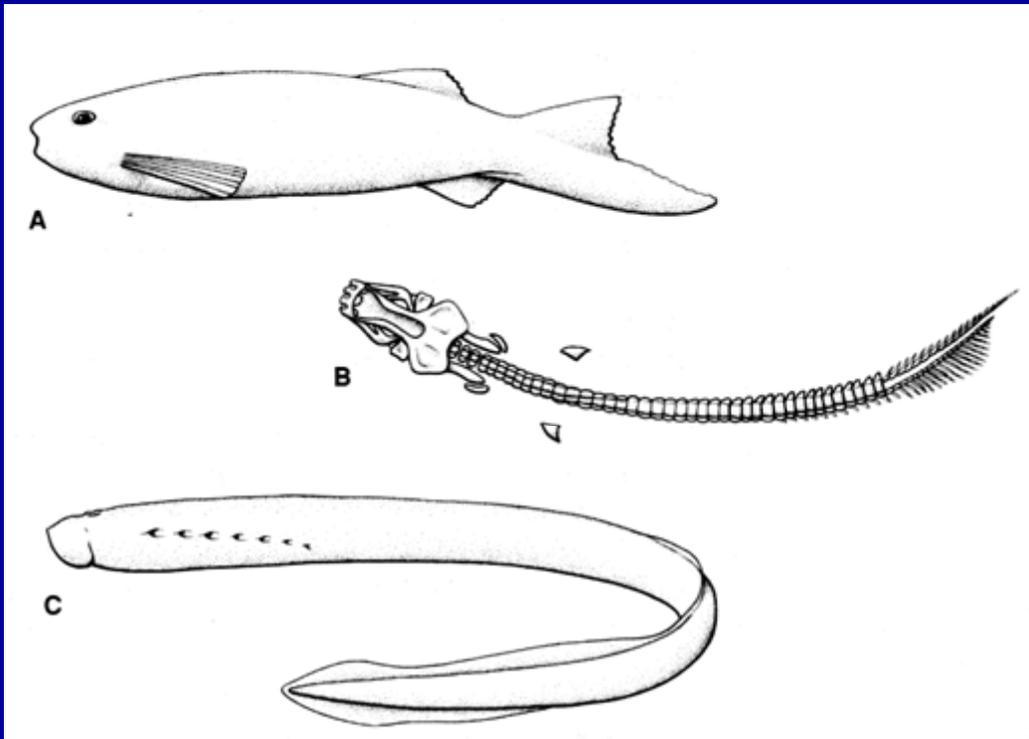
Lampréia

Idade: 550 M.a.

Diversidade: 84 spp.

470 spp. fósseis

Maioria extinta há 360 M.a.



Agnatha

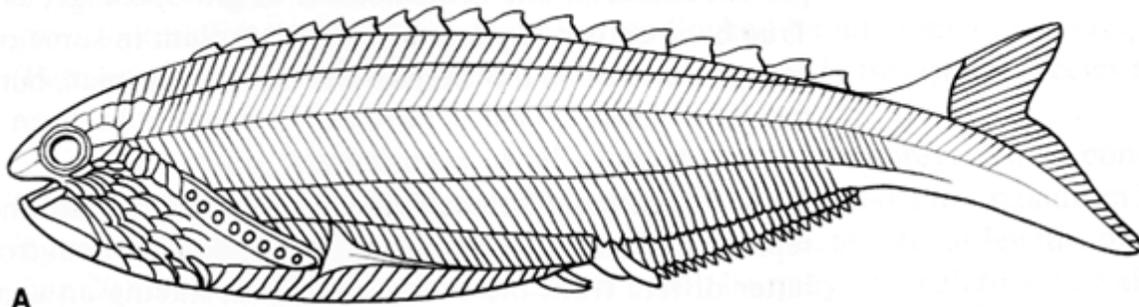
Lampréia

Idade: 550 M.a.

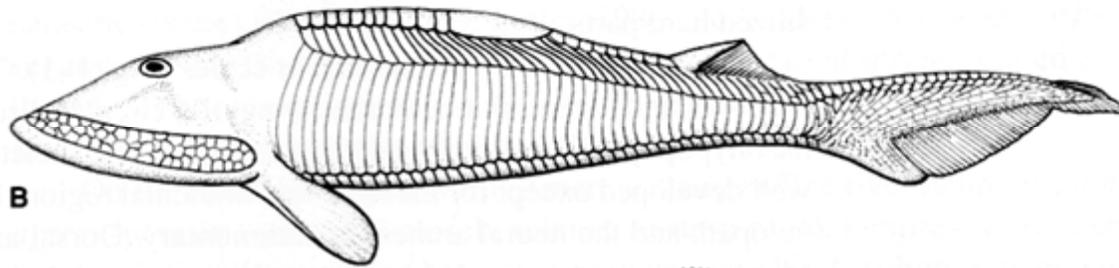
Diversidade: 84 spp.

470 spp. fósseis

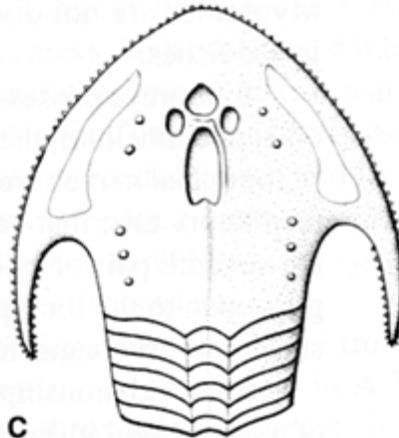
Maioria extinta há 360 M.a.



A

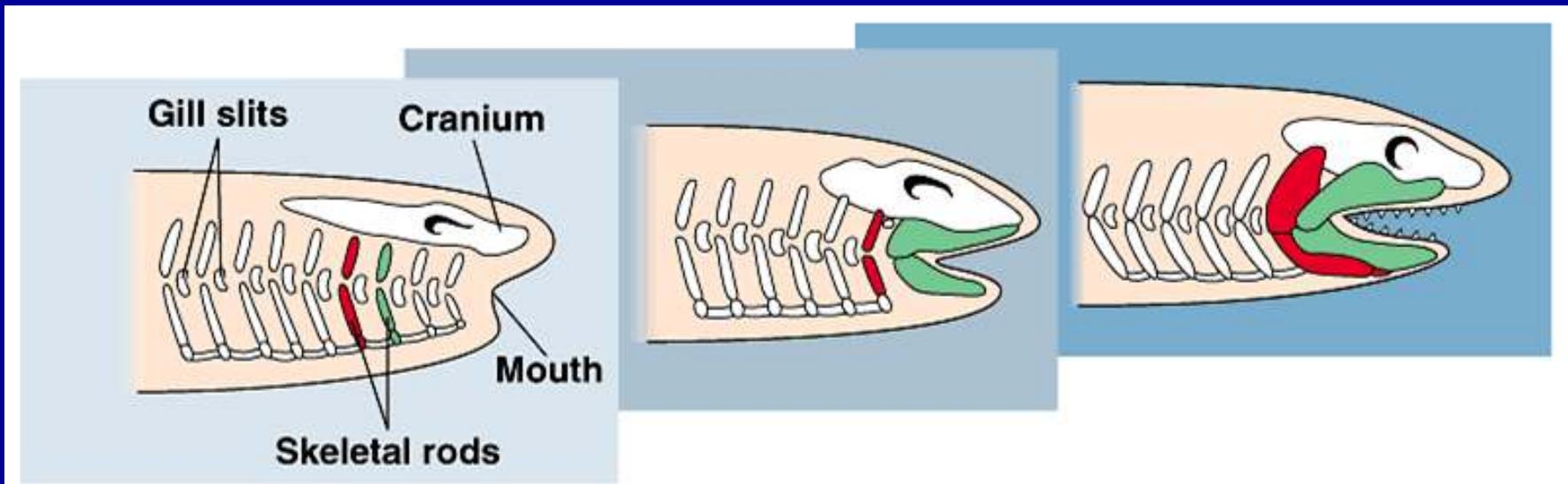


B



C

- A mandíbula dos Vertebrados evoluiu pela modificação de parte do esqueleto (arcos branquiais) que previamente segurava a parte anterior da faringe. As outras partes da estrutura das brânquias (guelras) permaneceu no local próprio para respiração.



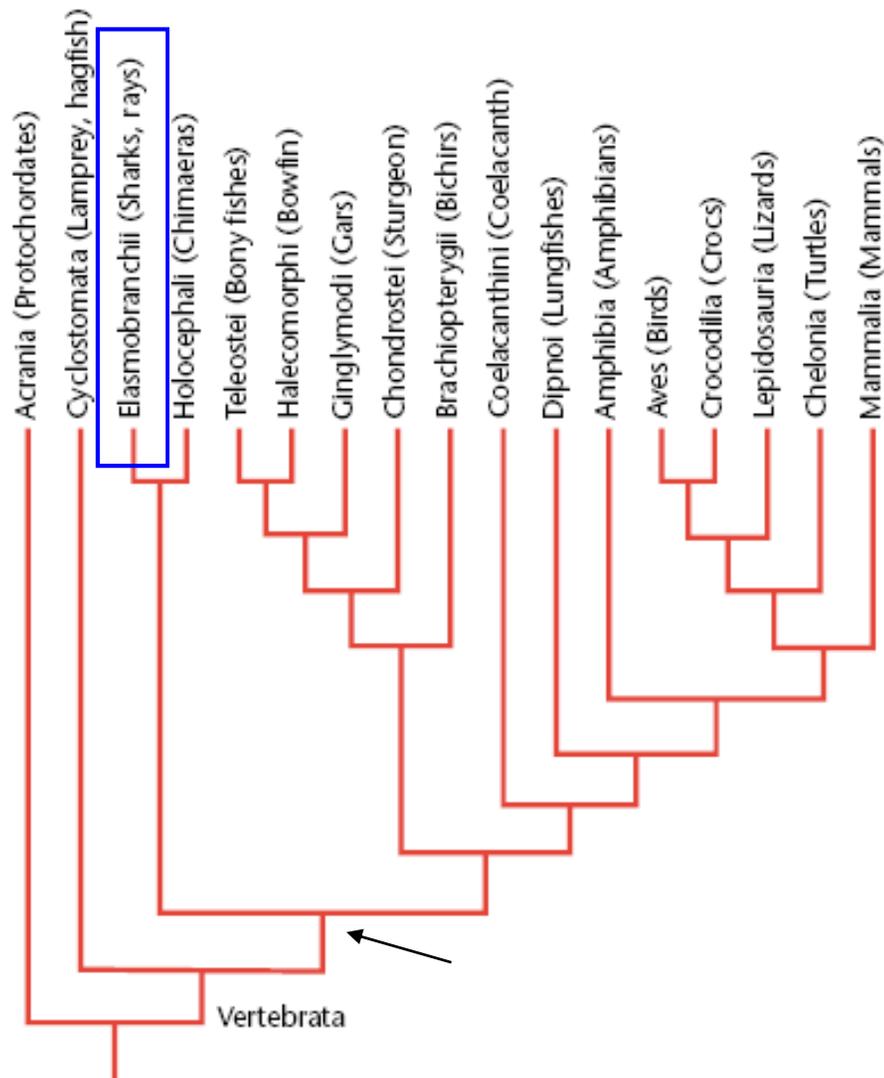


Figure 1 Phylogeny of the Vertebrata, showing evolutionary relationships of major vertebrate animal groups.

Chondrichthyes Elasmobrânquios

Idade: 450 M.a.

Diversidade: 850 spp.



Chondrichthyes

Elasmobrânquios

Idade: 450 M.a.

Diversidade: 850 spp.





A side-by-side view of a contemporary white shark tooth (left) and a megalodon tooth. The megalodon was a prehistoric great white shark. (Photo by Jeffrey L. Rotman/Corbis. Reproduced by permission.)

Chondrichthyes

Elasmobrânquios

Idade: 450 M.a.

Diversidade: 850 spp.



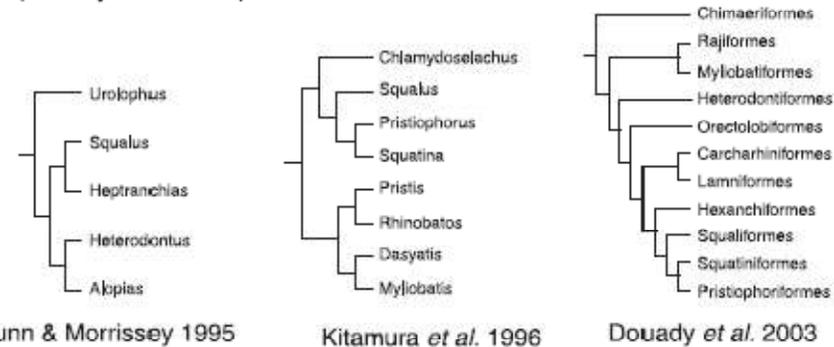
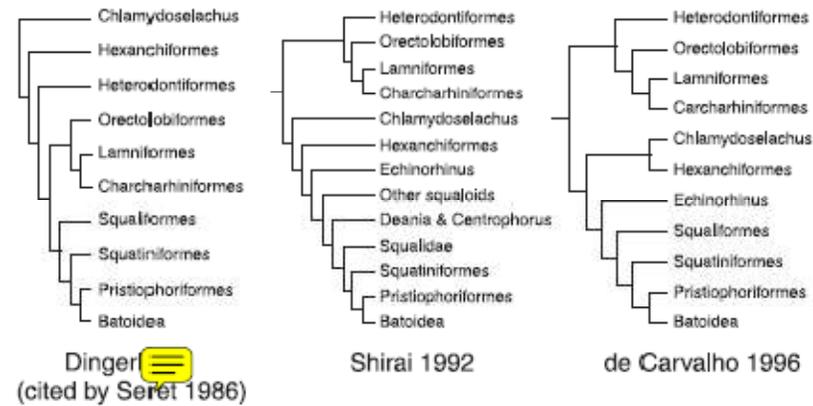
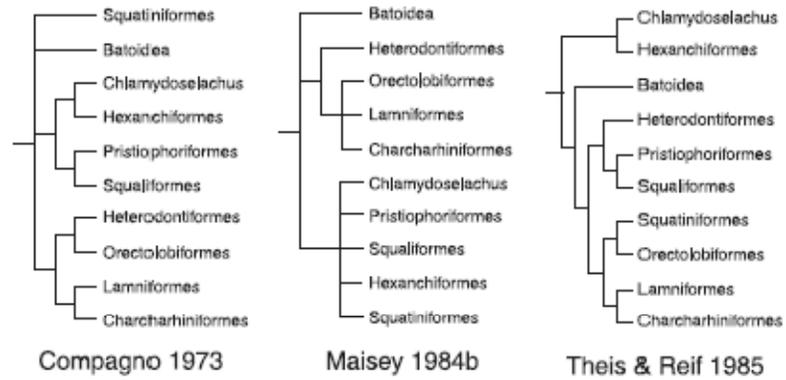
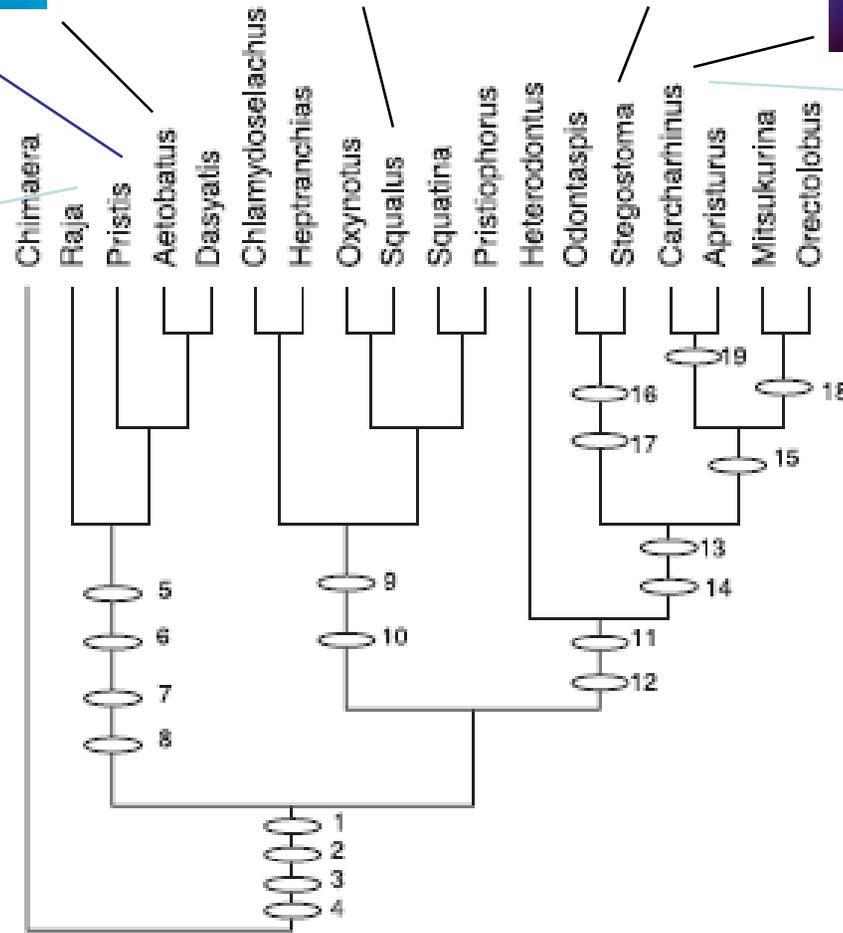
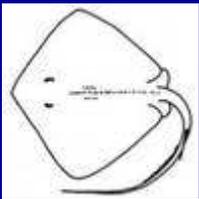
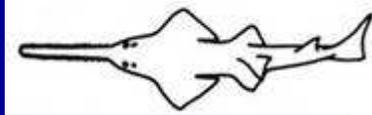


Fig. 1.1 Nine hypotheses of relationship among extant elasmobranches forwarded by various authors. The last 3 are based on molecular sequence data



G. Naylor et al., in press

Ver Videos – figs Elasmos

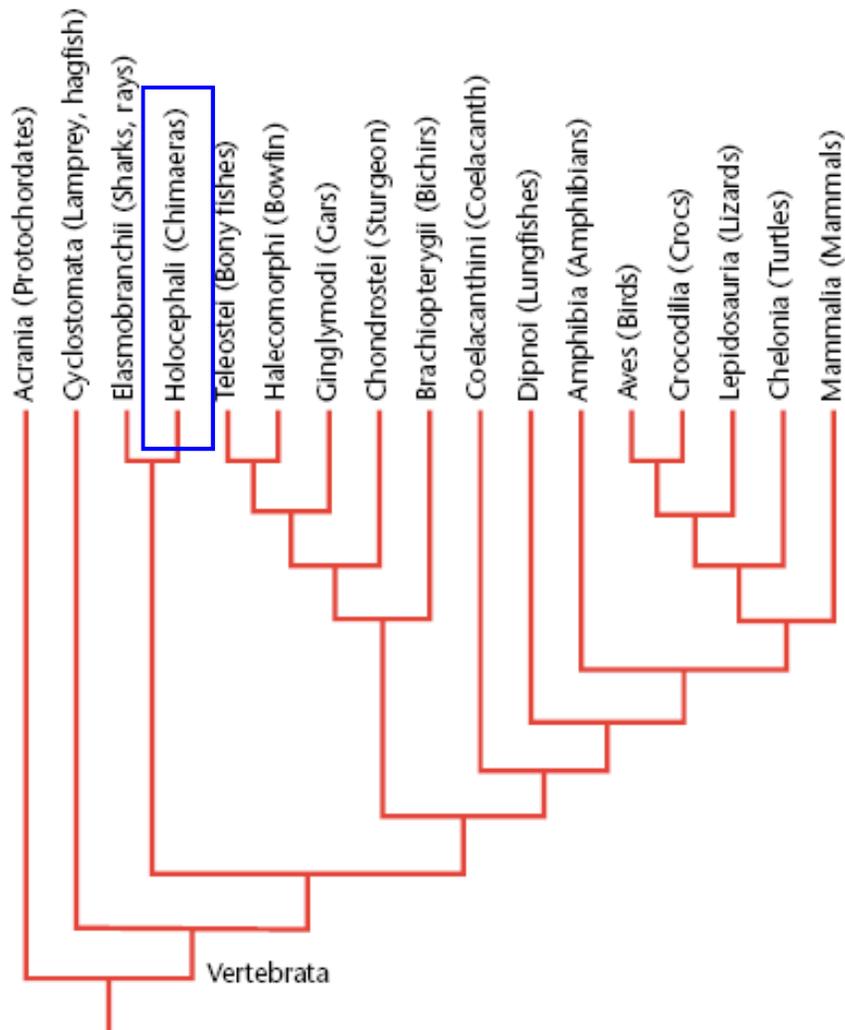


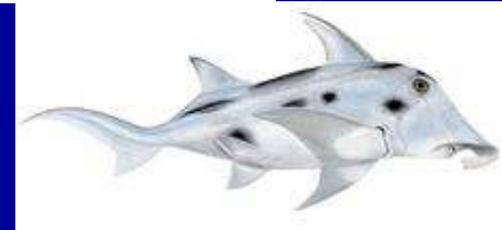
Figure 1 Phylogeny of the Vertebrata, showing evolutionary relationships of major vertebrate animal groups.

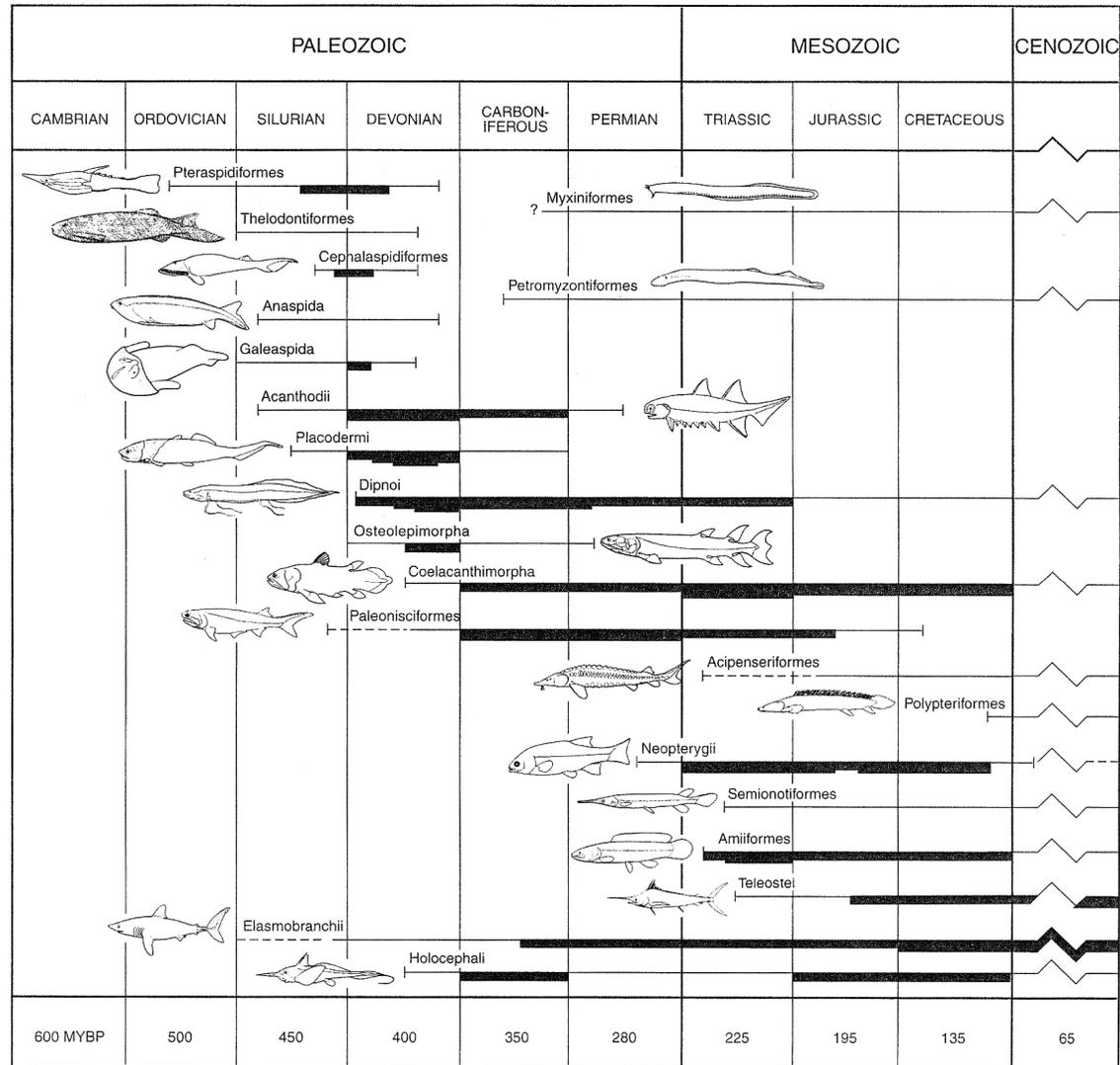
Holocephali

Quiméras

Idade: 400 M.a.

Diversidade: 34 spp.





Periods of occurrence and relative diversity of major fish taxa based on the fossil record

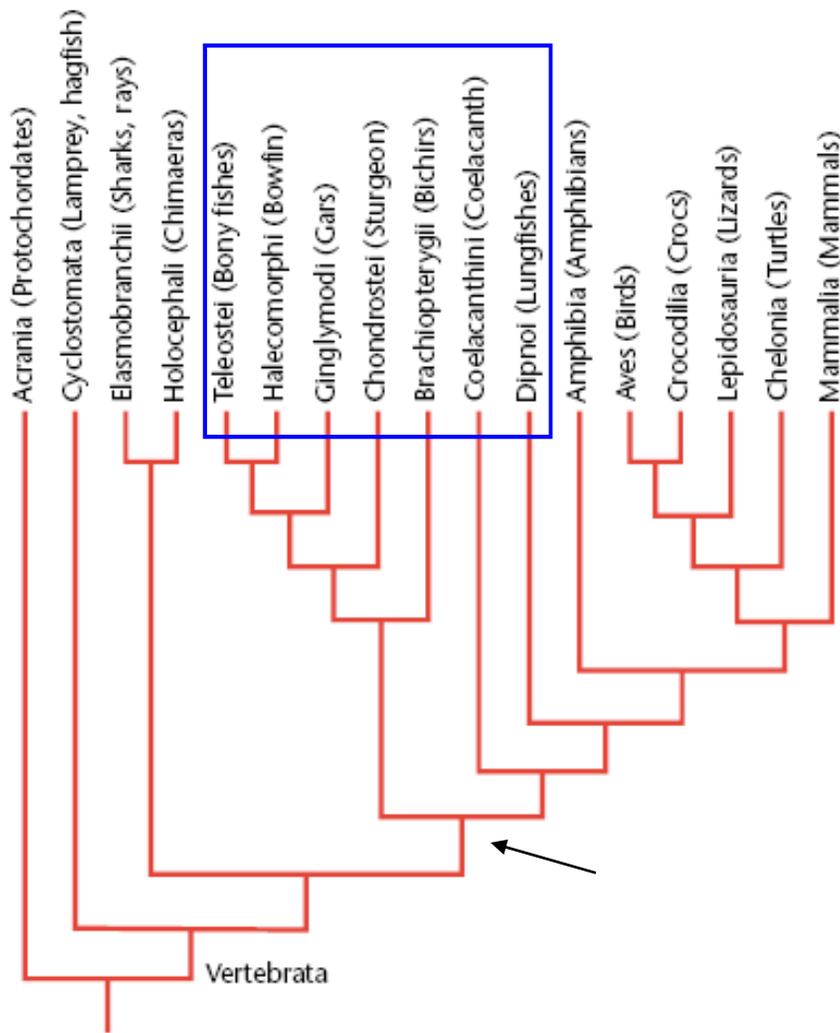
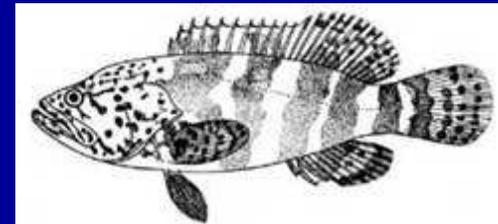


Figure 1 Phylogeny of the Vertebrata, showing evolutionary relationships of major vertebrate animal groups.

Osteichthyes

Idade: 400 M.a.

Diversidade: 24.000 spp.



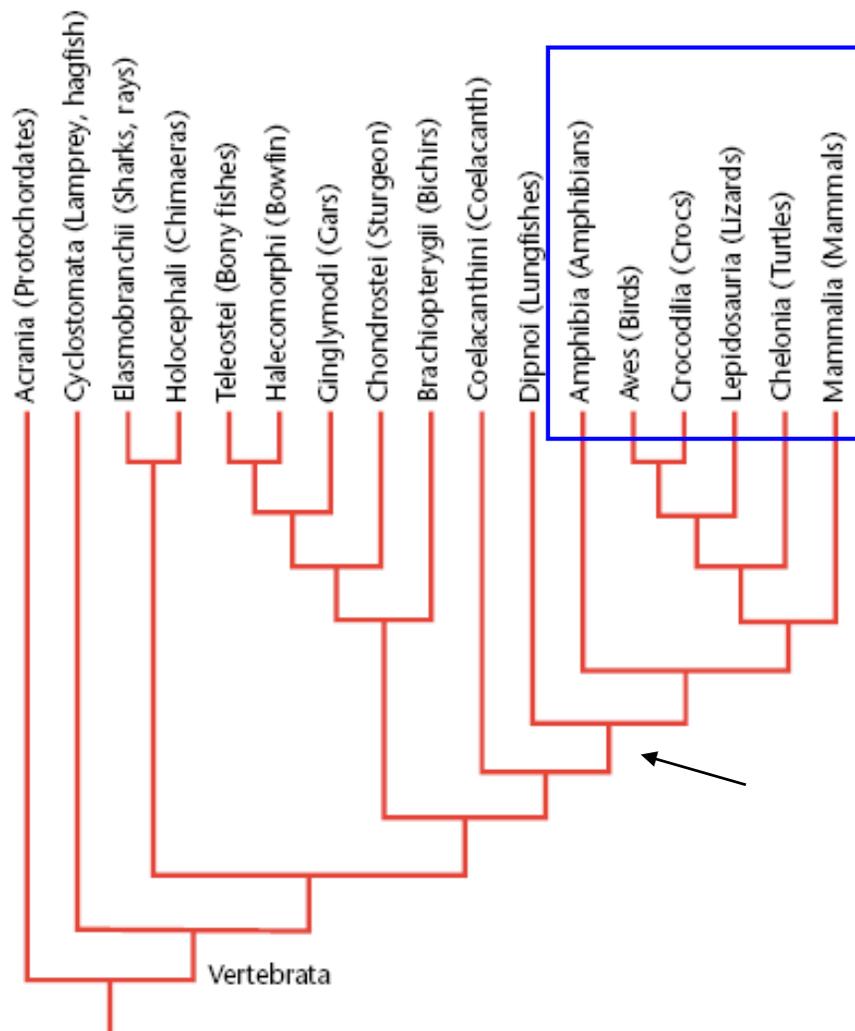


Figure 1 Phylogeny of the Vertebrata, showing evolutionary relationships of major vertebrate animal groups.

Tetrapoda

Idade: 350? M.a.

Diversidade: >20.000 spp.



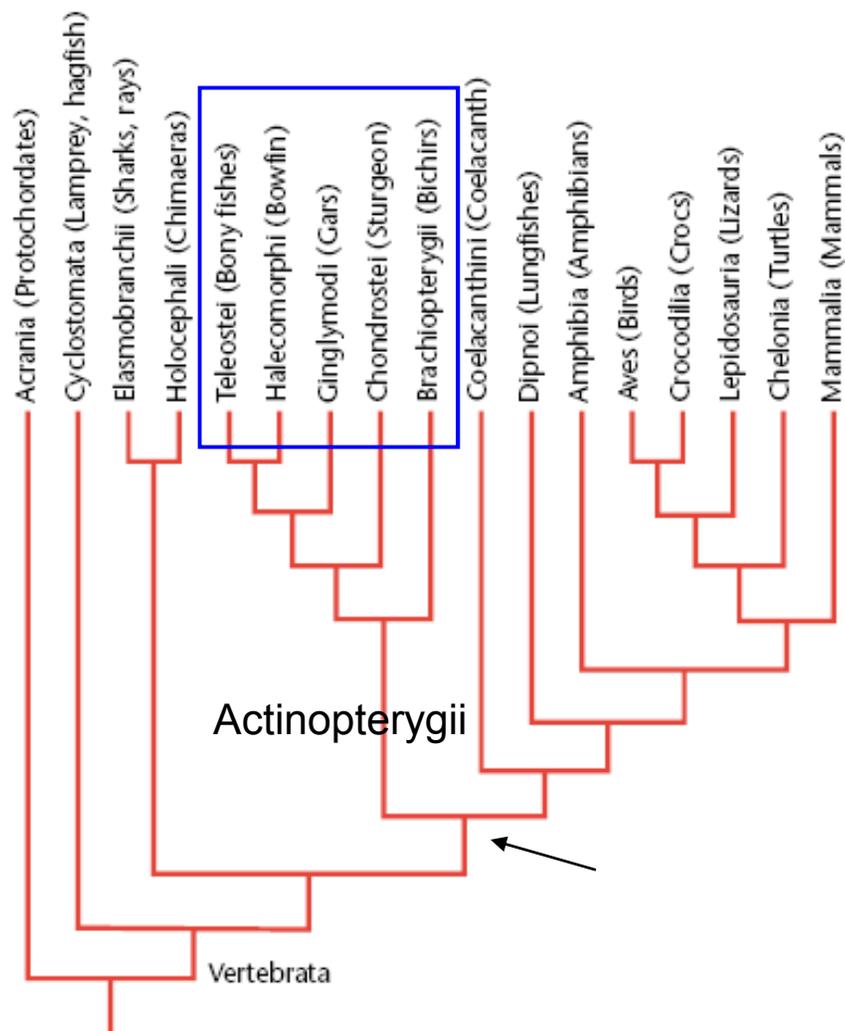


Figure 1 Phylogeny of the Vertebrata, showing evolutionary relationships of major vertebrate animal groups.

Classe

ACTINOPTERYGII

Peixes ósseos com mandíbulas e com nadadeiras sustentadas por filamentos rígidos

Idade: 350? M.a.

Diversidade: >20.000 spp.

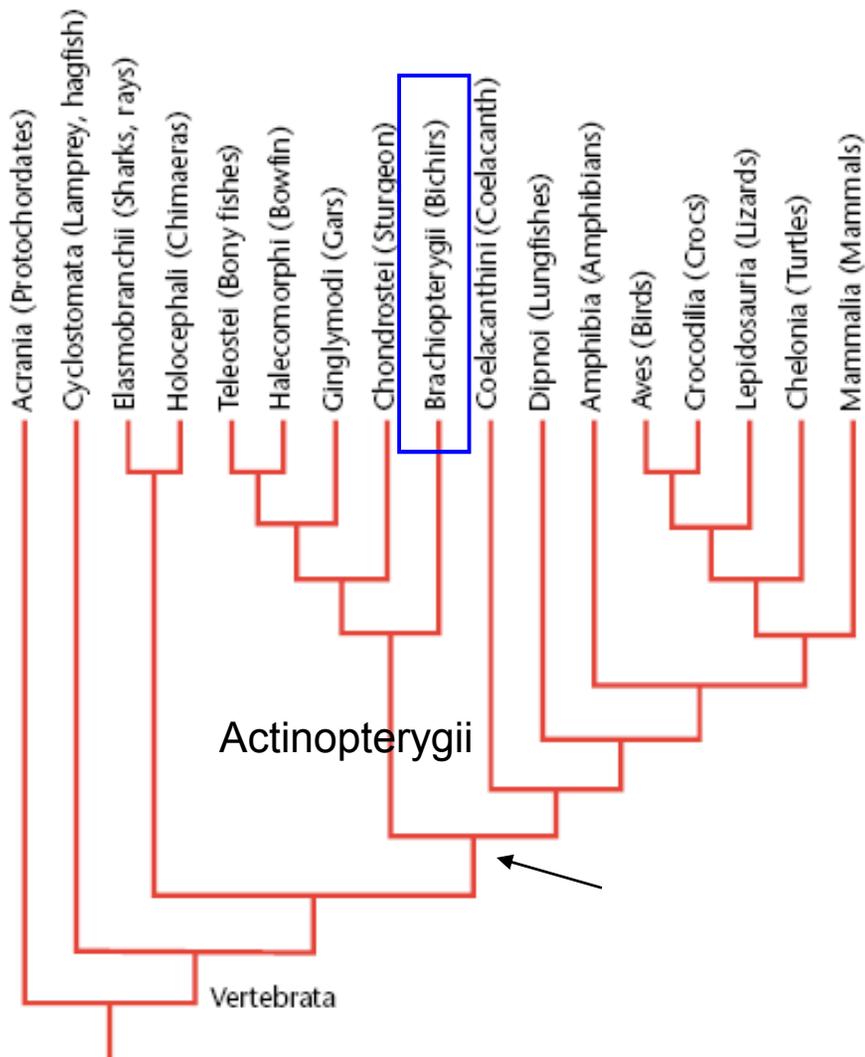


Figure 1 Phylogeny of the Vertebrata, showing evolutionary relationships of major vertebrate animal groups.

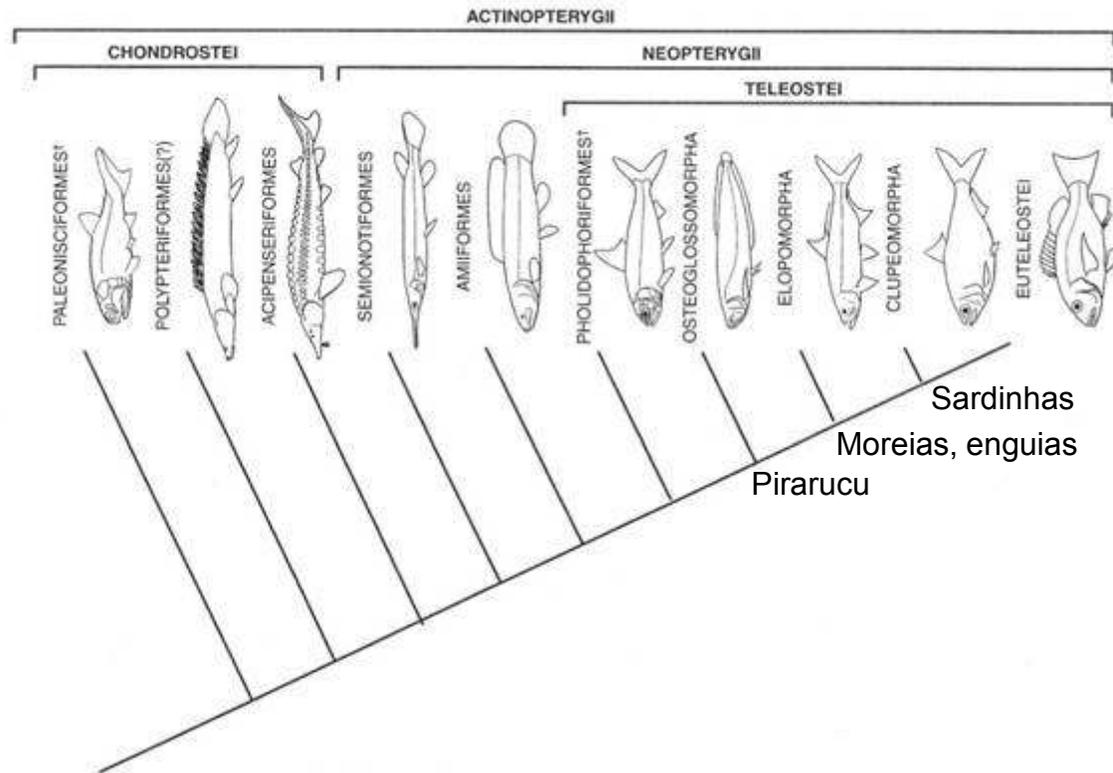
Branchiopterygii

Bichirs

Idade: 260 M.a.

Diversidade: 7 spp.





Phylogenetic relationships among actinopterygian fishes

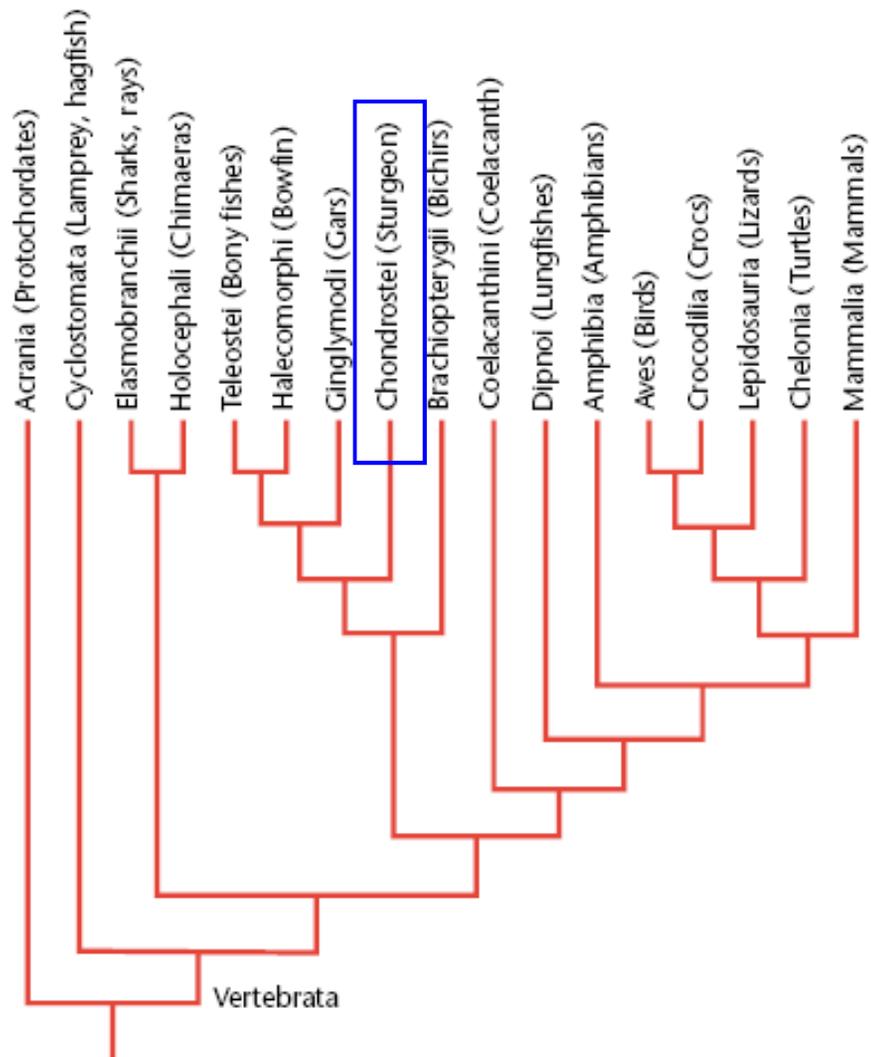


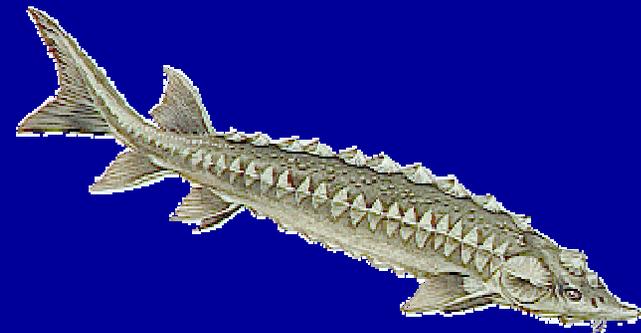
Figure 1 Phylogeny of the Vertebrata, showing evolutionary relationships of major vertebrate animal groups.

Chondrostei

Esturjões

Idade: 150 M.a.

Diversidade: 25 spp.



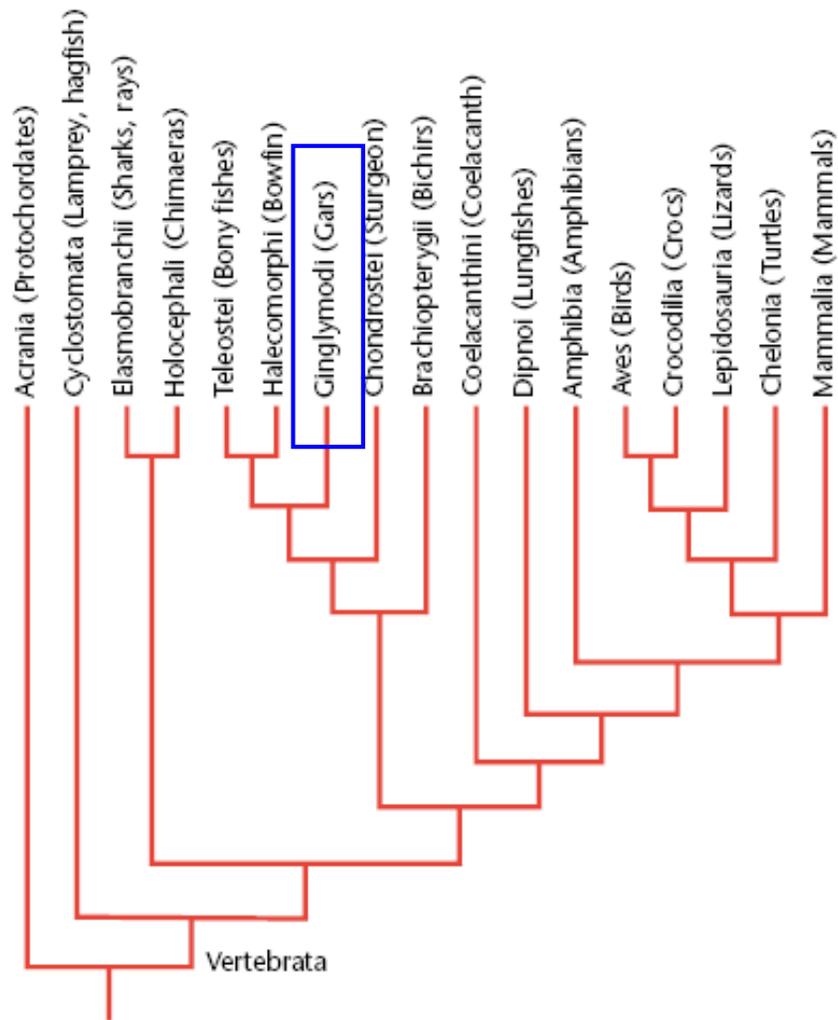


Figure 1 Phylogeny of the Vertebrata, showing evolutionary relationships of major vertebrate animal groups.

Ginglymodi

Idade: 80? M.a.

Diversidade: 7 spp.



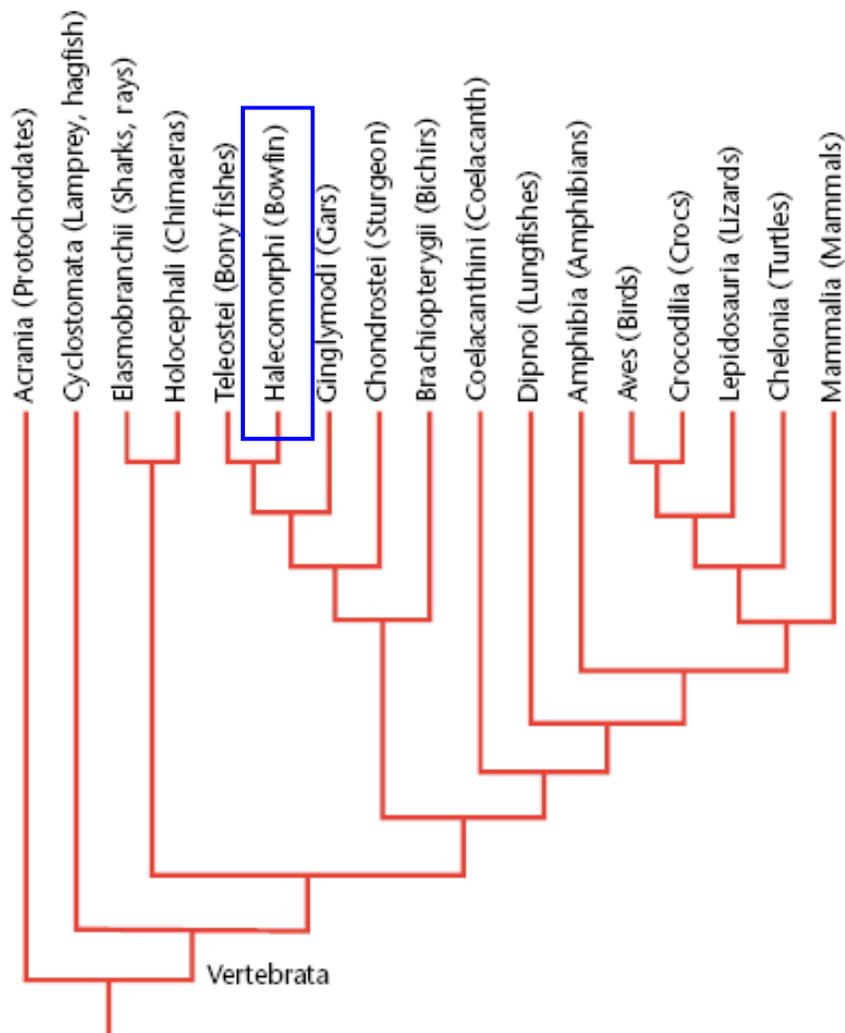


Figure 1 Phylogeny of the Vertebrata, showing evolutionary relationships of major vertebrate animal groups.

Halecomorphi

Idade: 200 M.a.

Diversidade: 1 sp.

Amia calva

50 gêneros extintos



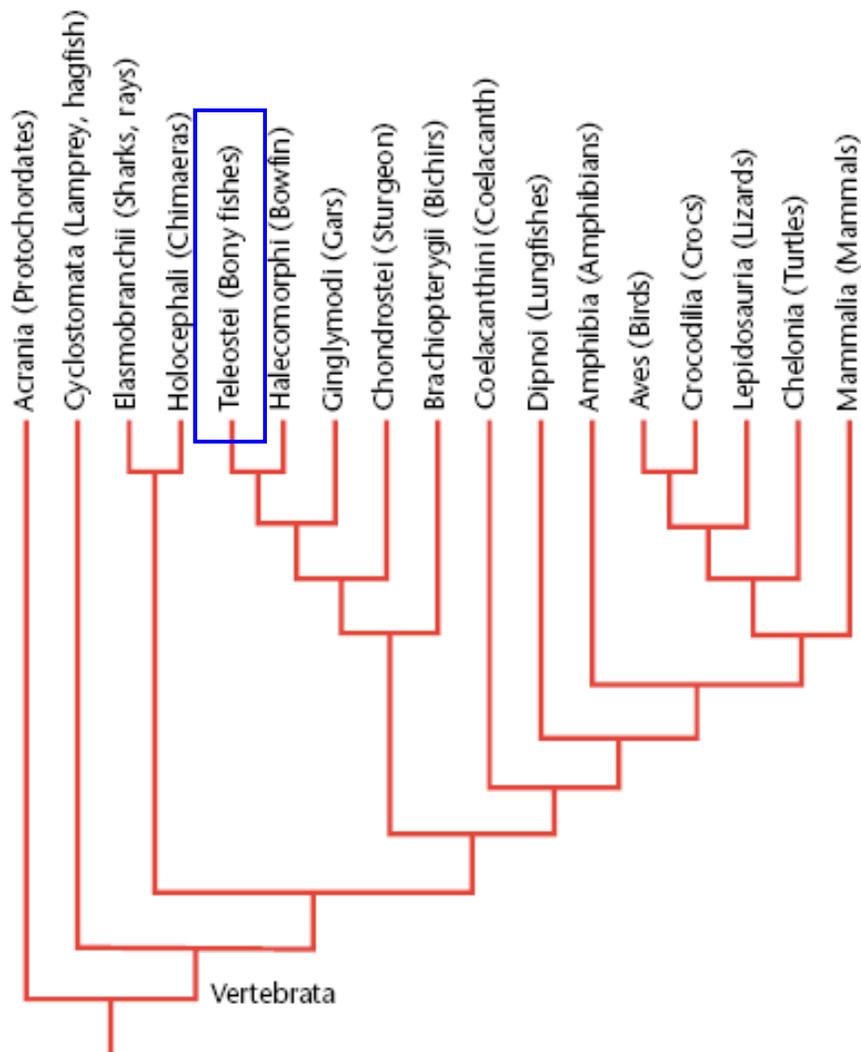


Figure 1 Phylogeny of the Vertebrata, showing evolutionary relationships of major vertebrate animal groups.

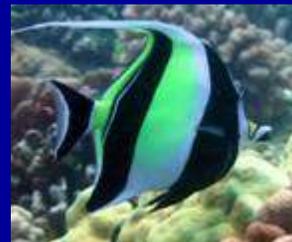
Teleostei

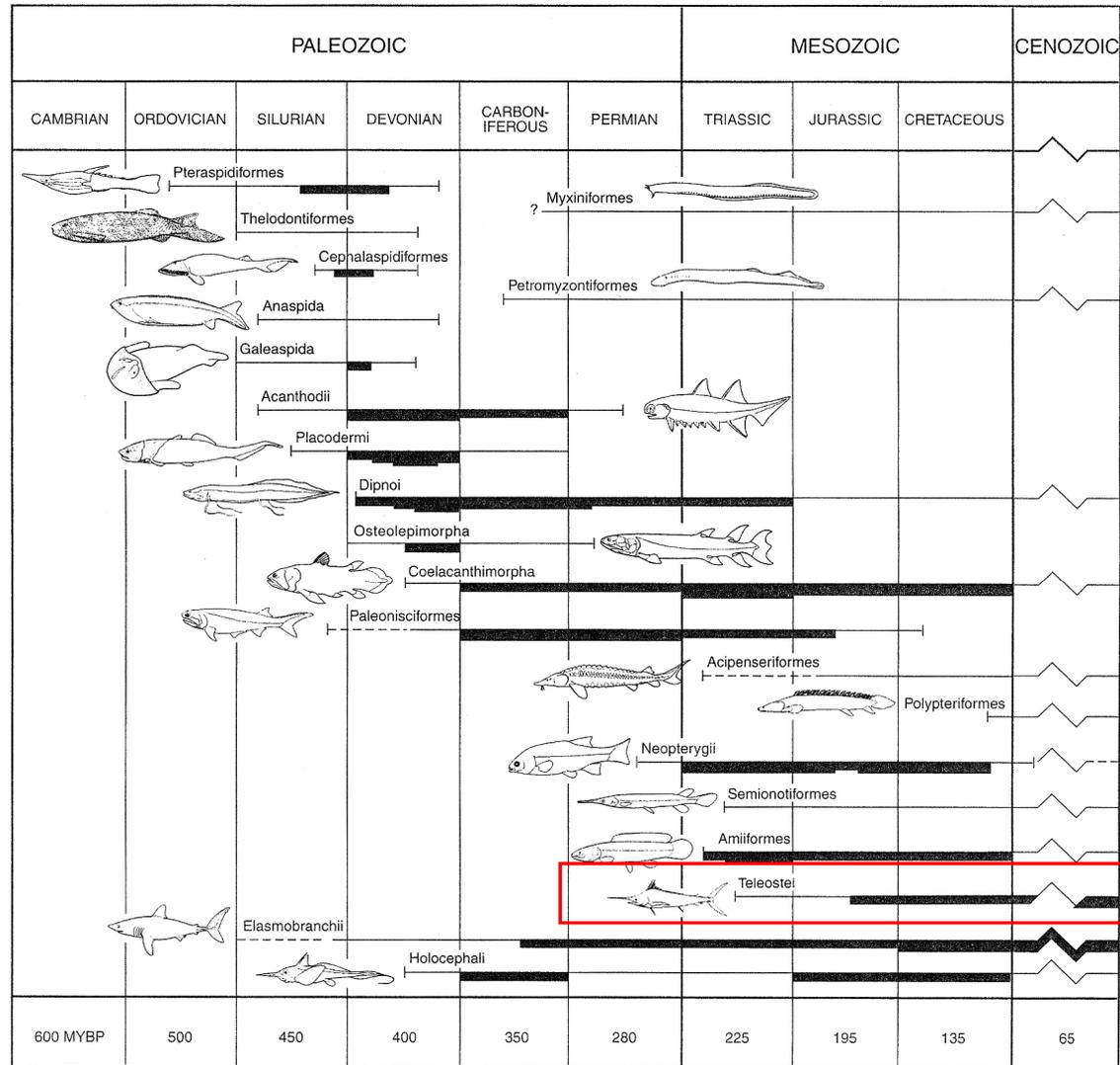
96% dos Osteichthyes

Idade: 200 M.a.

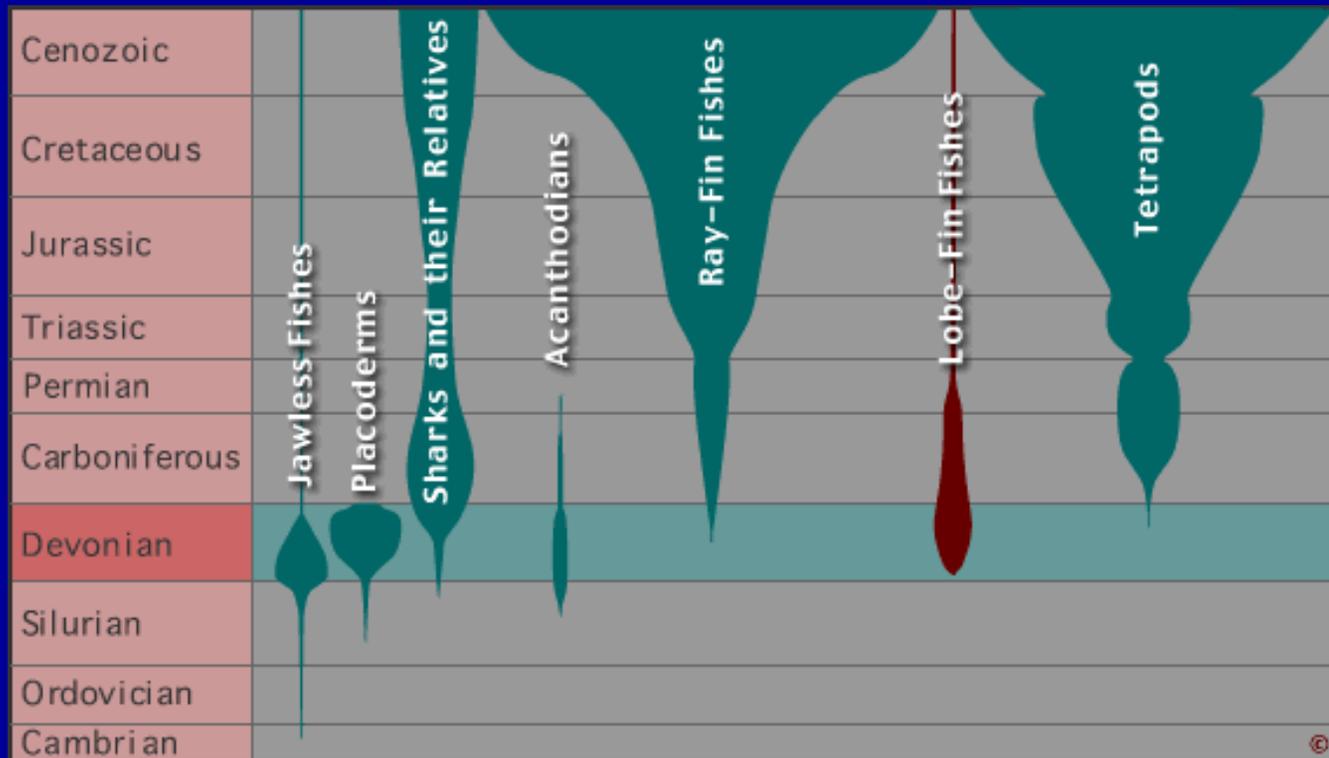
Diversidade: 23.000 spp.

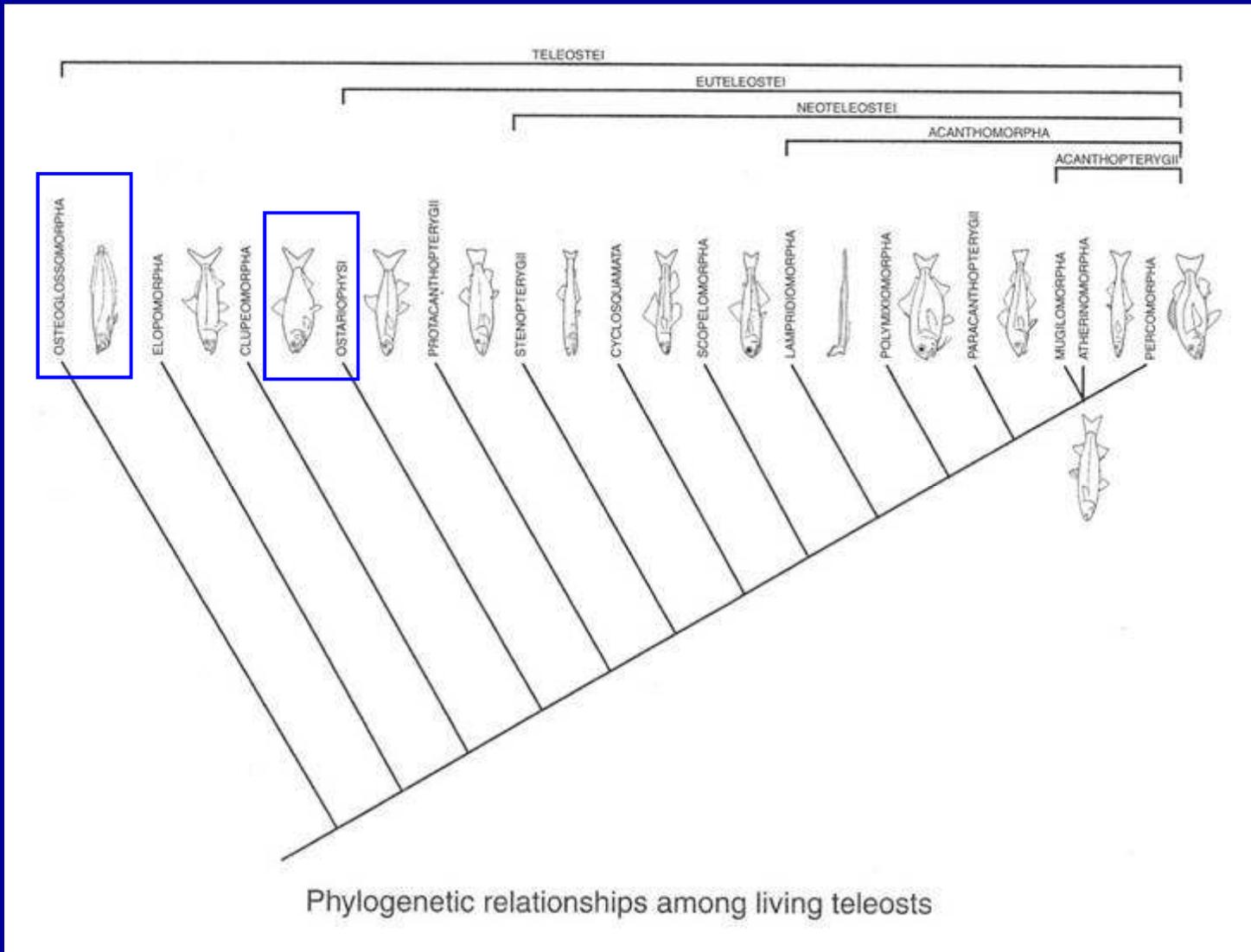
Grande diversificação no Cretáceo (140-65 M.a.)





Periods of occurrence and relative diversity of major fish taxa based on the fossil record





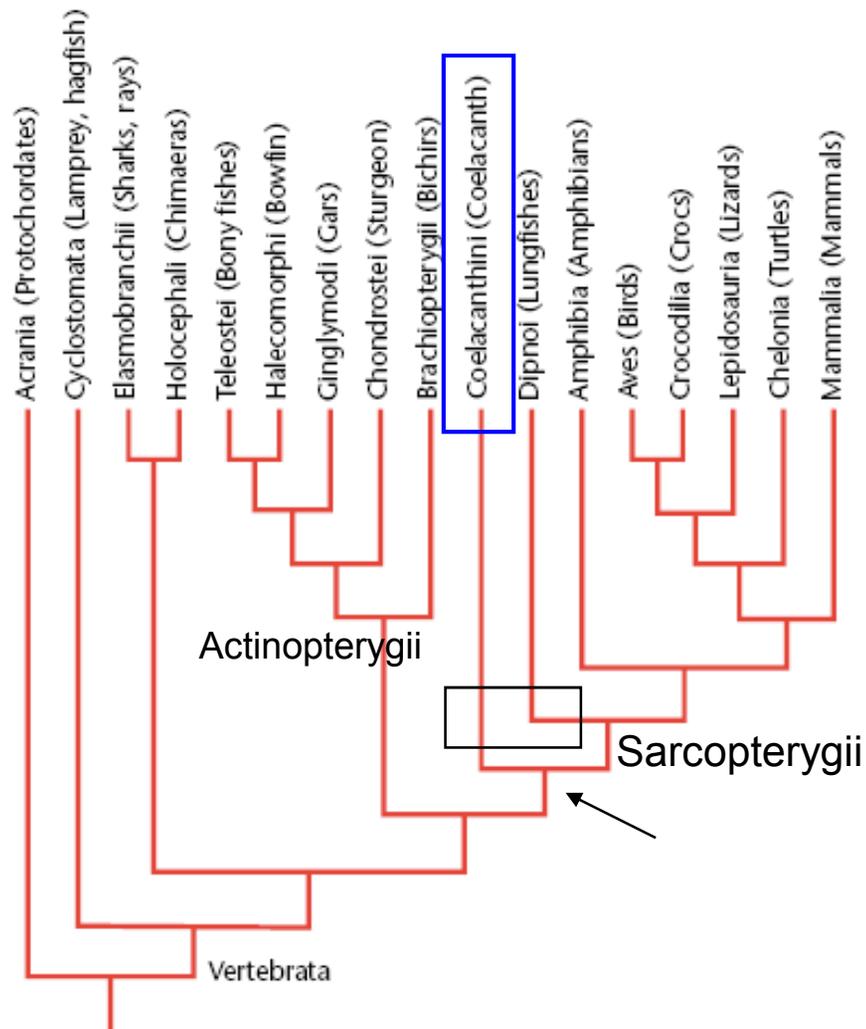


Figure 1 Phylogeny of the Vertebrata, showing evolutionary relationships of major vertebrate animal groups.

Sarcopterygii

Nadadeiras lobadas
carnosas

Coelacanthini

Celacanto

Idade: 400 M.a.

Pico 240 M.a.

Diversidade: 2 spp. ?

50 gêneros extintos

Pensava-se extinto há 65
M.a. (até 1938)



150 a 700m prof. - 1,8m comp femea - viviparo

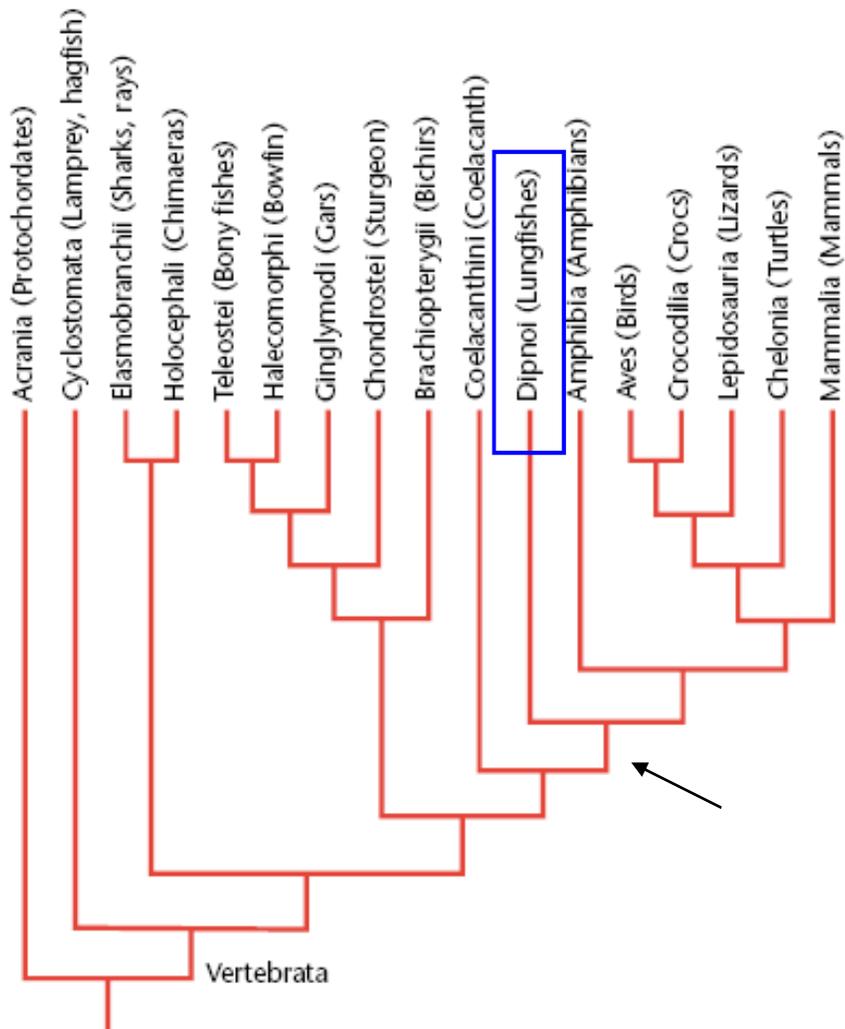


Figure 1 Phylogeny of the Vertebrata, showing evolutionary relationships of major vertebrate animal groups.

Dipnoi

Peixes Pulmonados

Idade: 380 M.a.

Diversidade: 6 spp.



Dipnoi

Peixes Pulmonados



Ordem Ceratodontiformes
Peixe pulmonado australiano
Neoceratodus forsteri

Dipnoi

Peixes Pulmonados



Peixe pulmonado **Sul-Americano**
(*Lepidosiren paradoxa*)

pirambóia

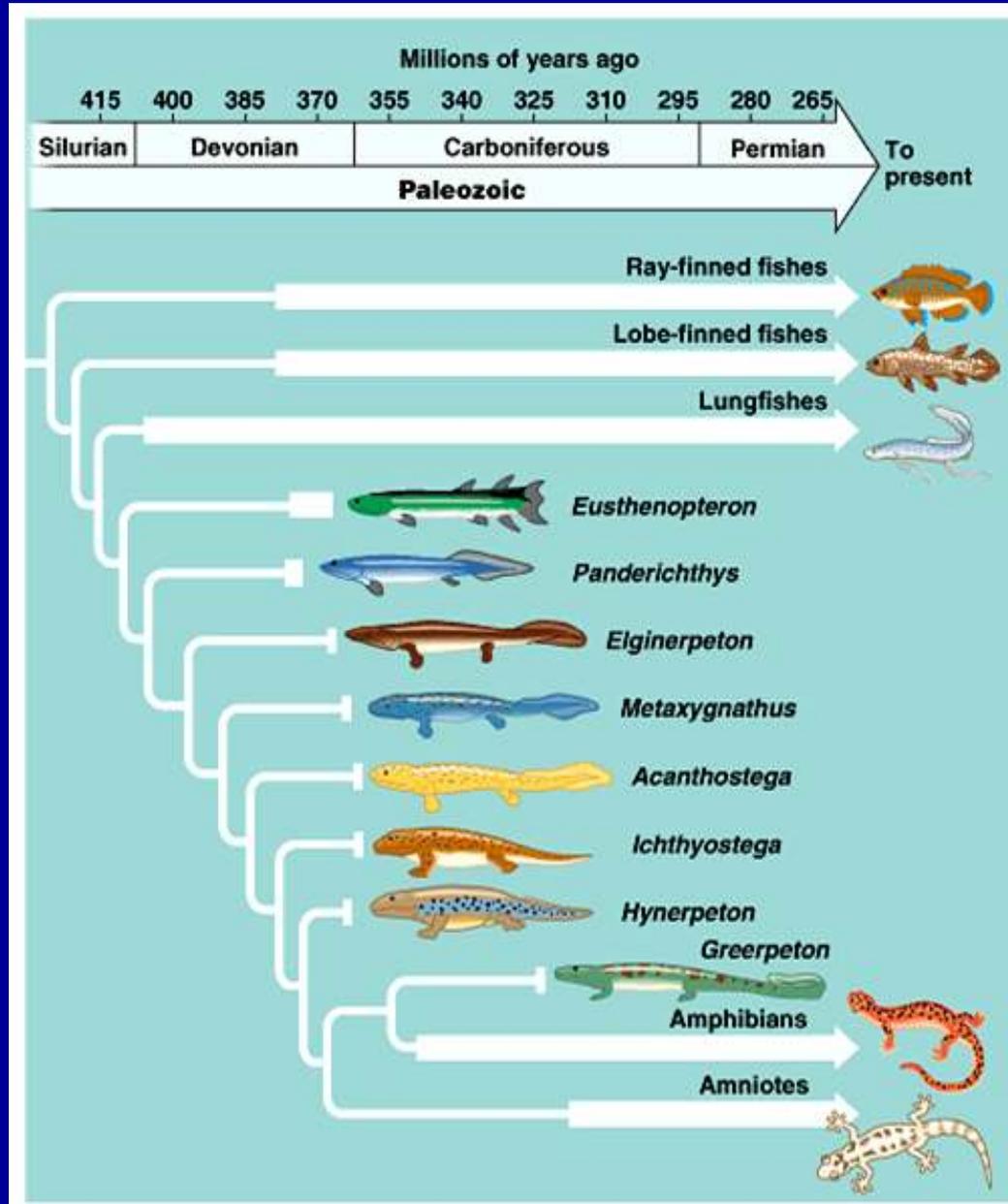


Dipnoi

Peixes Pulmonados



Peixe pulmonado **Africano** (gen. *Protopterus*)



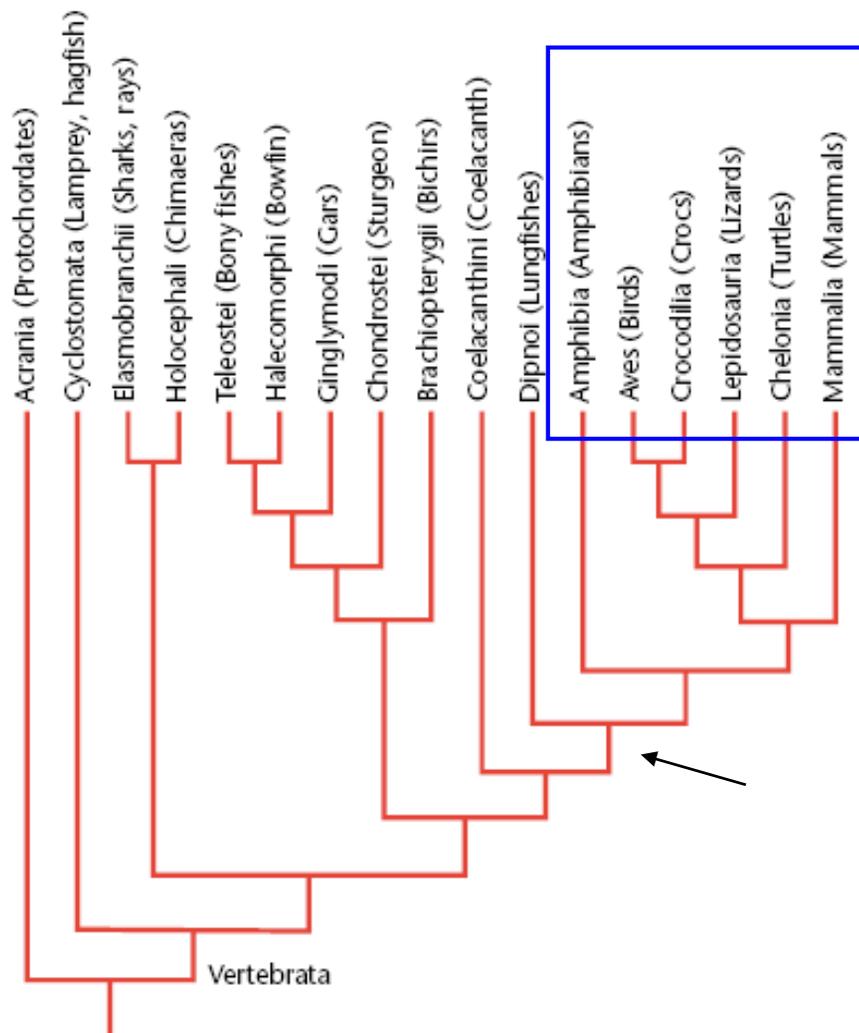
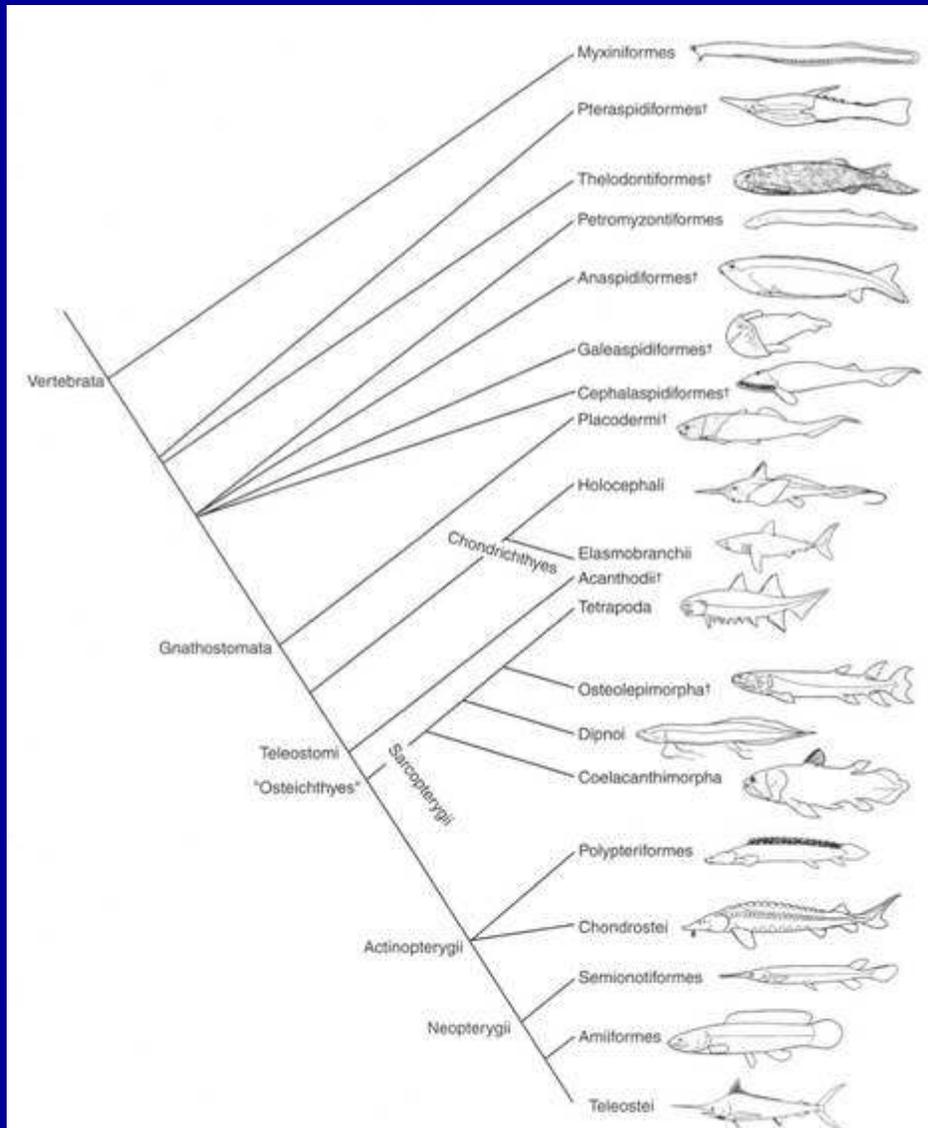


Figure 1 Phylogeny of the Vertebrata, showing evolutionary relationships of major vertebrate animal groups.

Tetrapoda

Diversidade: 20.000 spp.





Hypothesized phylogenetic relationships among living and selected extinct (†) fish groups. Mostly after Nelson 1994 (see Chaps. 11, 13).

Ver guia de ID do Daniel!!