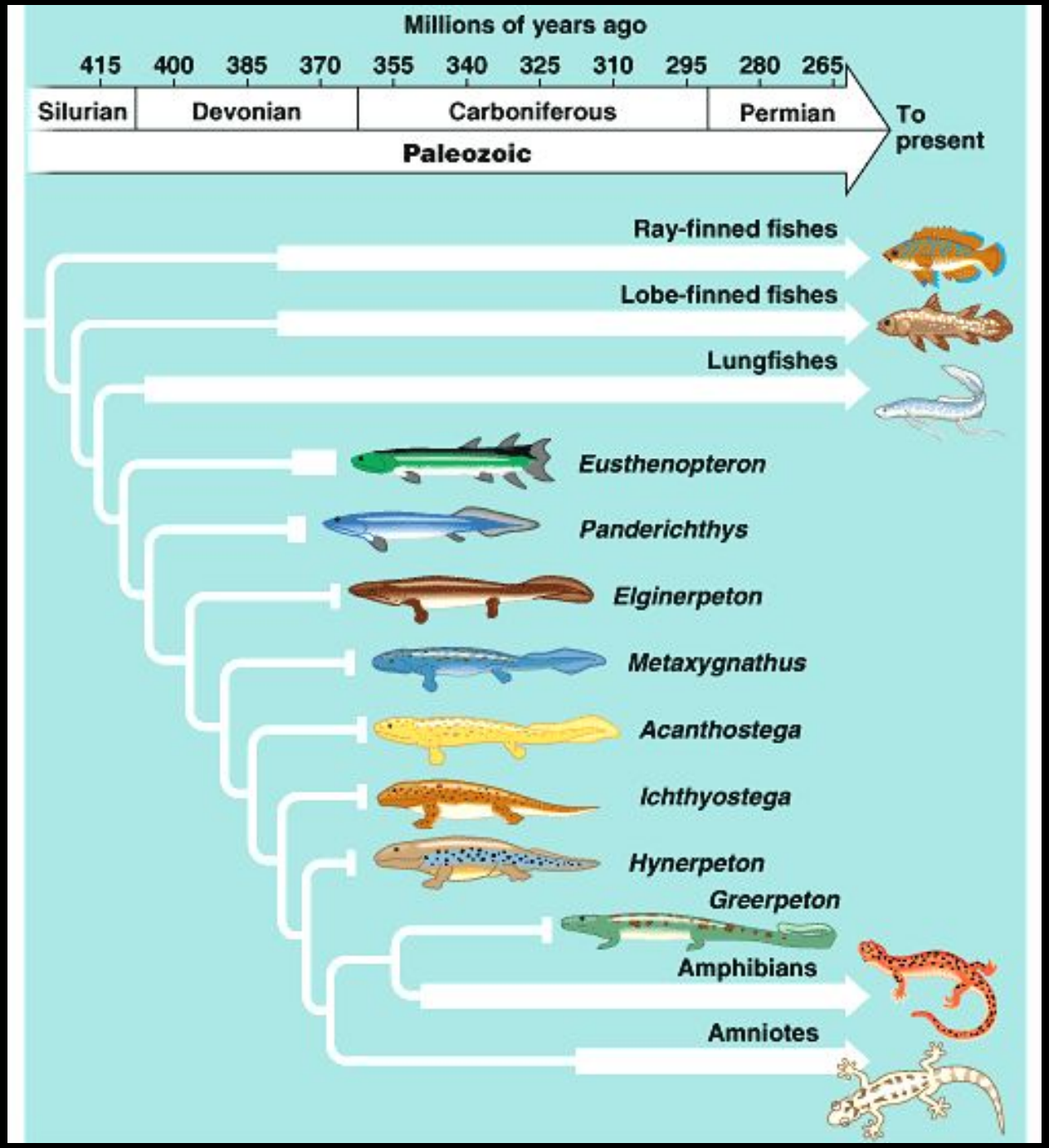
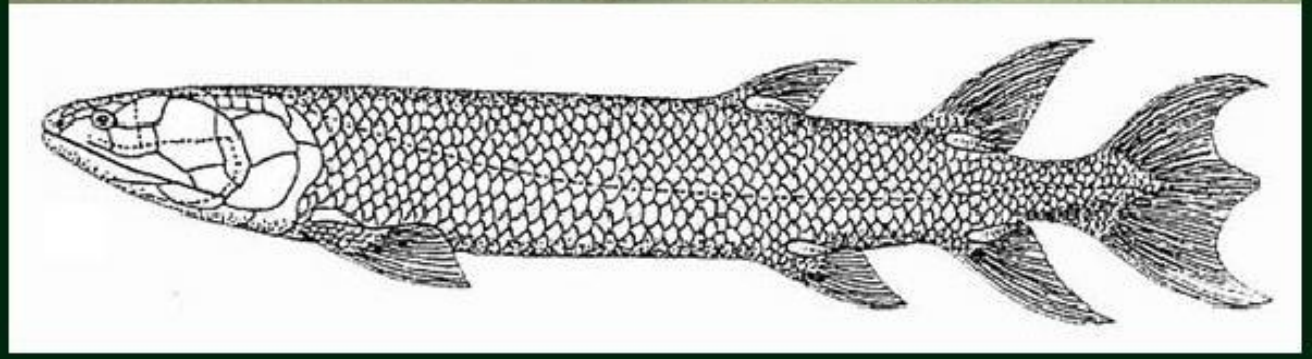
Tetrapoda

Amphibia

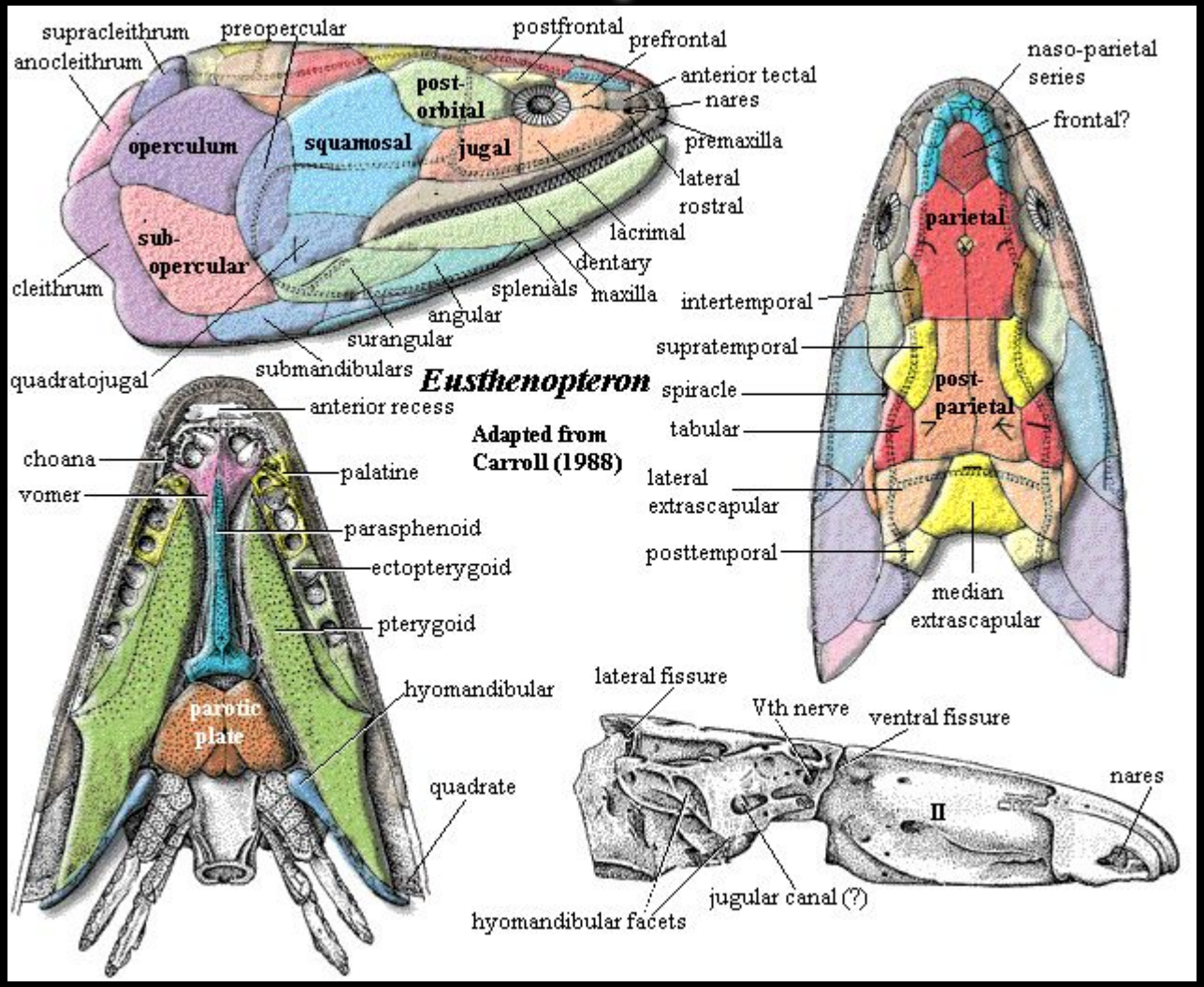
Amniota


Millions of years ago
415
400
385
370
355
340
325
310
295
280
265
Silurian
Devonian
Carboniferous
Permian
To present
Paleozoic
Ray-finned fishes
Lobe-finned fishes
Lungfishes
Eusthenopteron
Panderichthys
Elginerpeton
Metaxygnathus
Acanthostega
Ichthyostega
Hynerpeton
Greerpeton
Amphibians
Amniotes

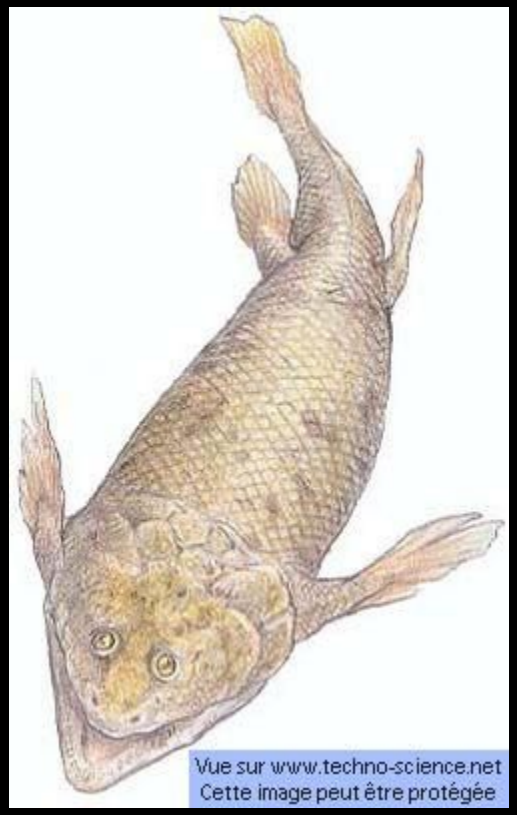
Переход от Sarcopterygia к Tetrapoda



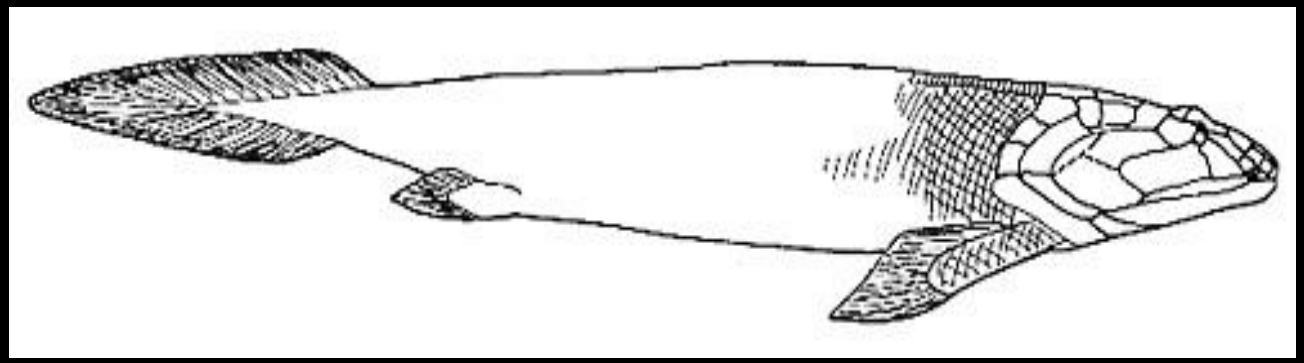
Переход от Sarcopterygia к Tetrapoda

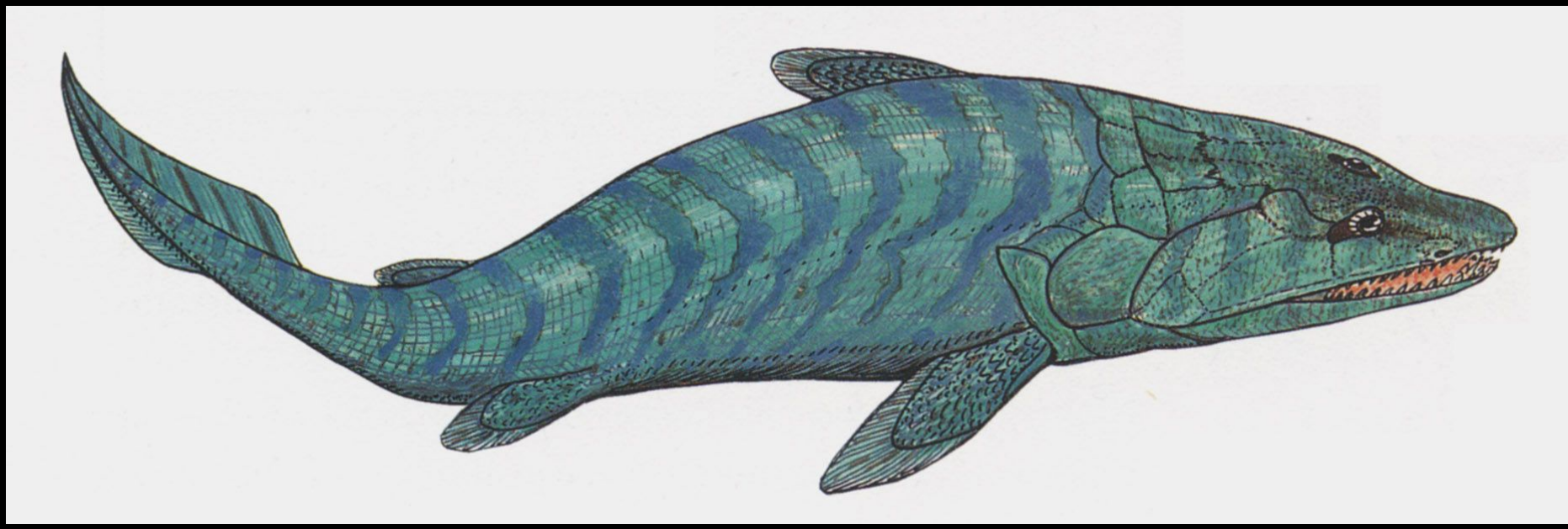


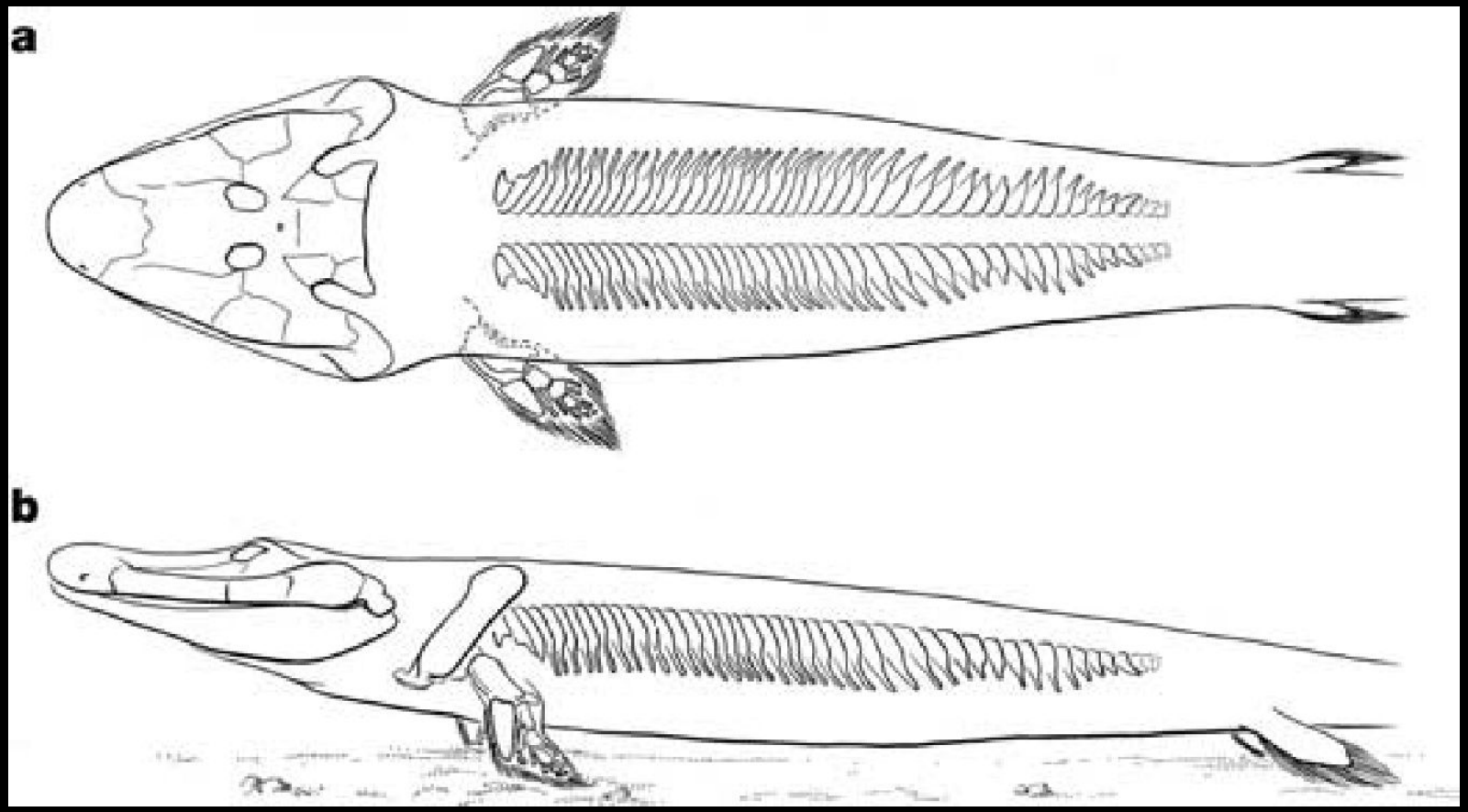
Переход от Sarcopterygia к Tetrapoda



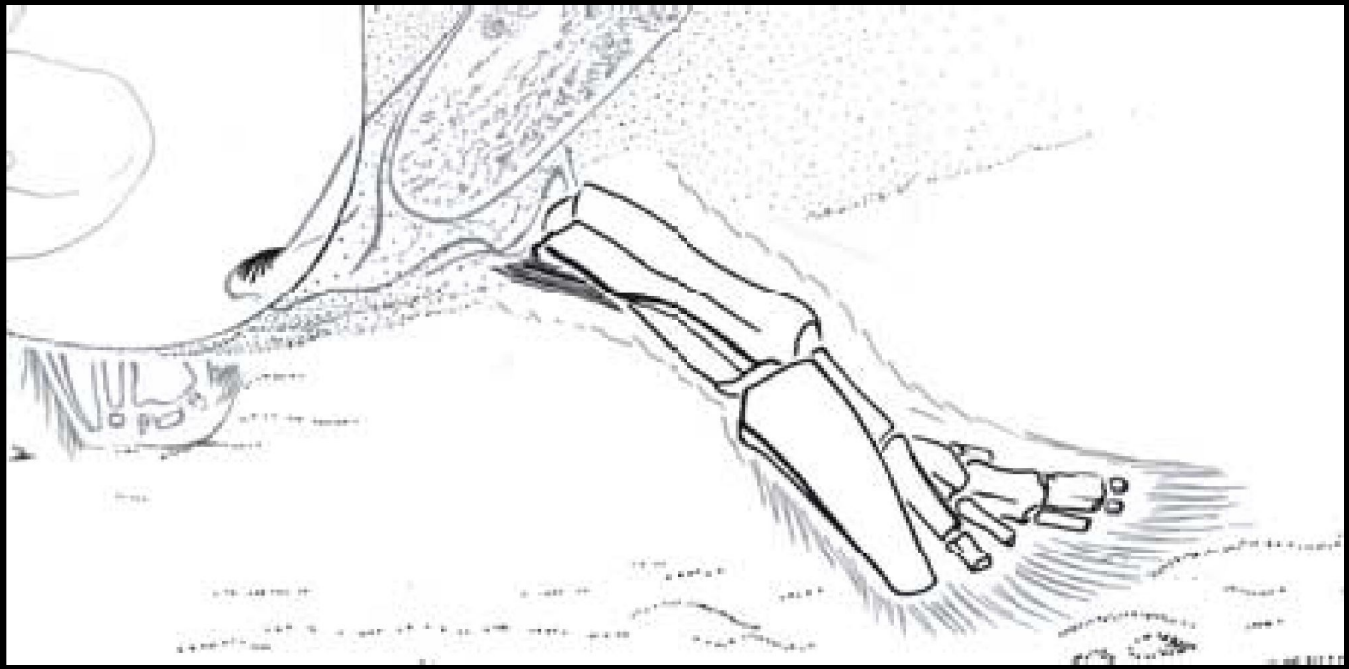
Panderichthys

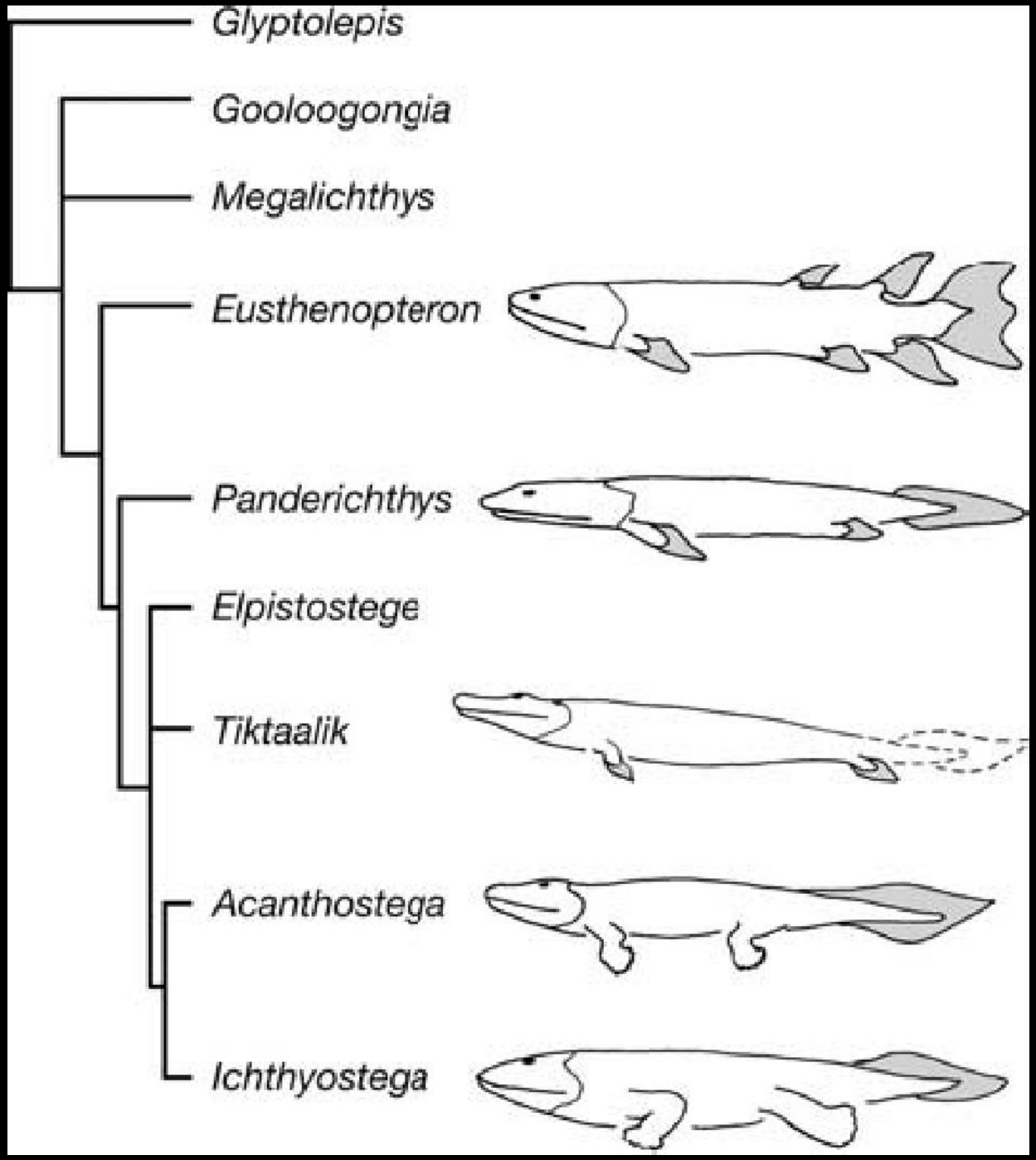


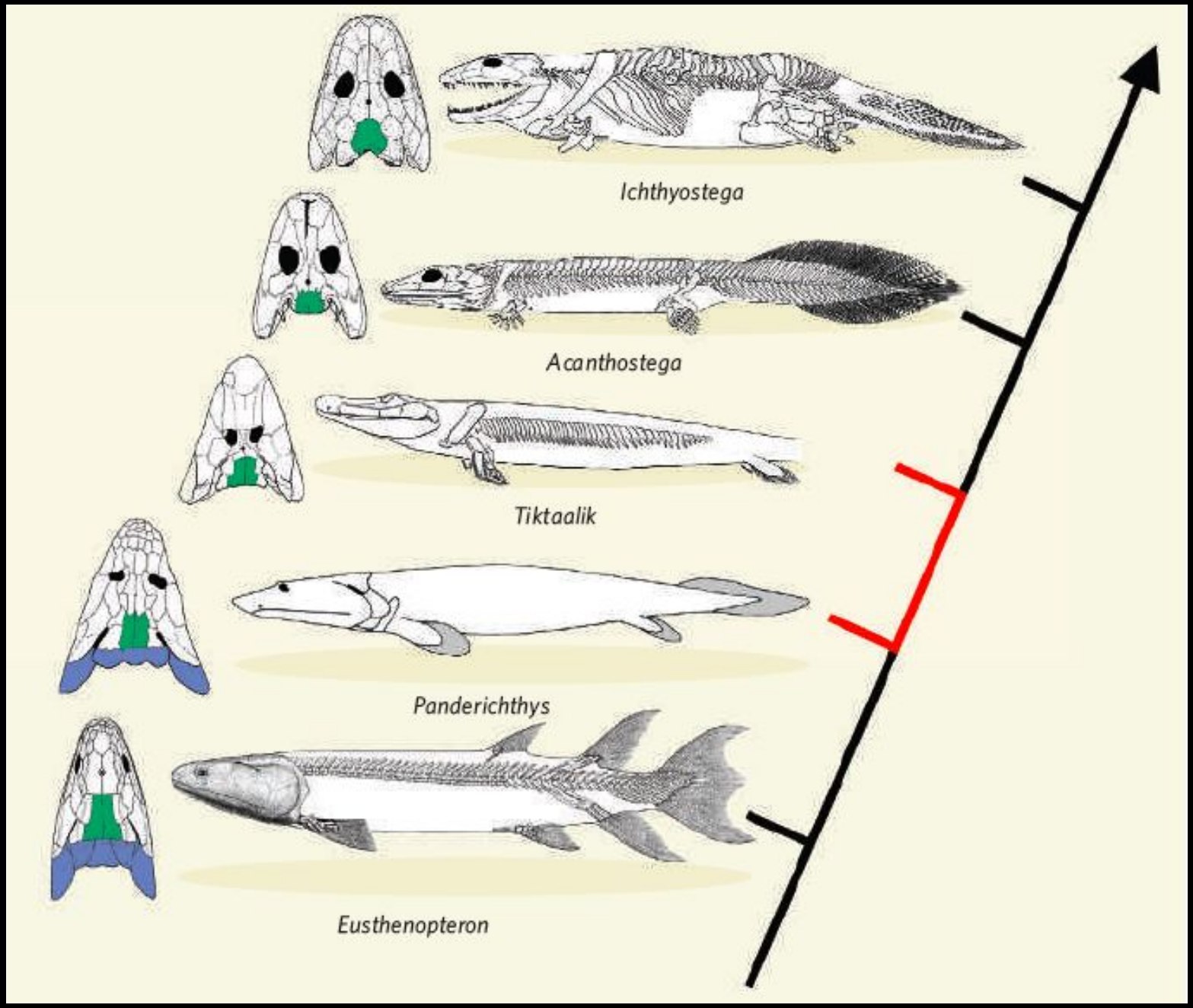




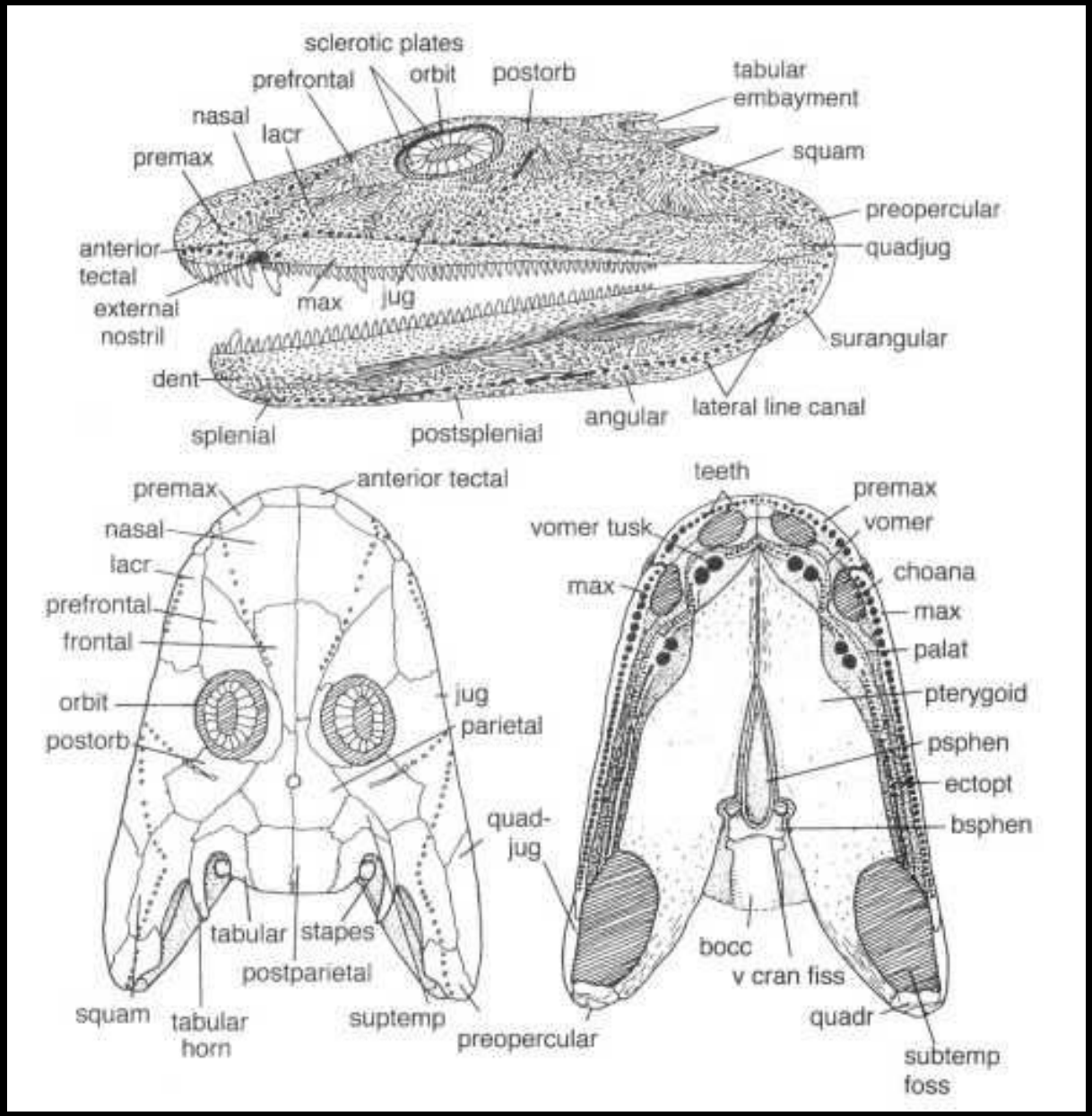
Tiktaalik




Glyptolepis
Gooloogongia
Megalichthys
Eusthenopteron
Panderichthys
Elpistostege
Tiktaalik
Acanthostega
Ichthyostega

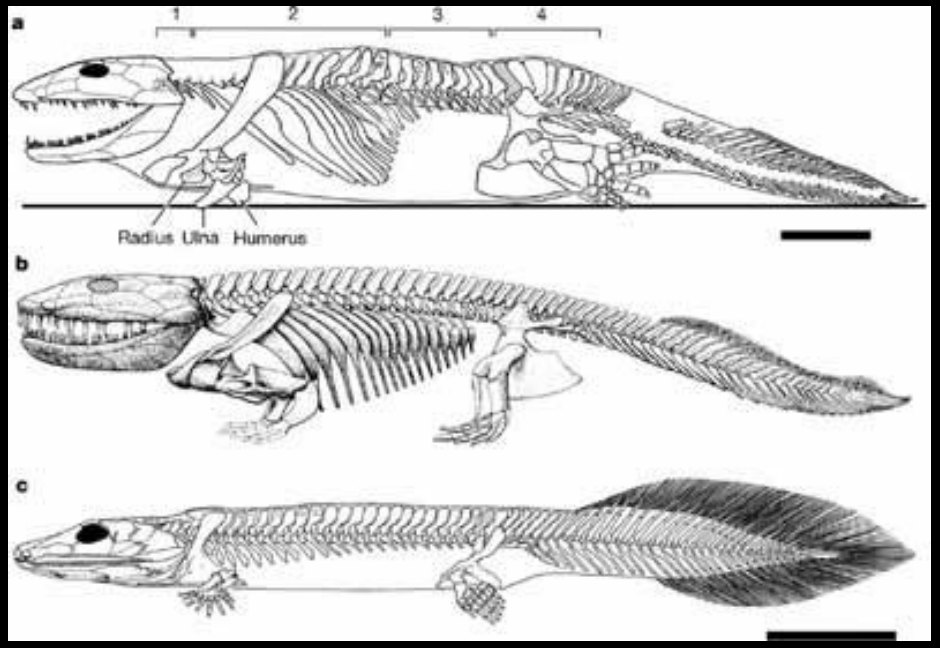

Ichthyostega
Acanthostega
Tiktaalik
Panderichthys
Eusthenopteron

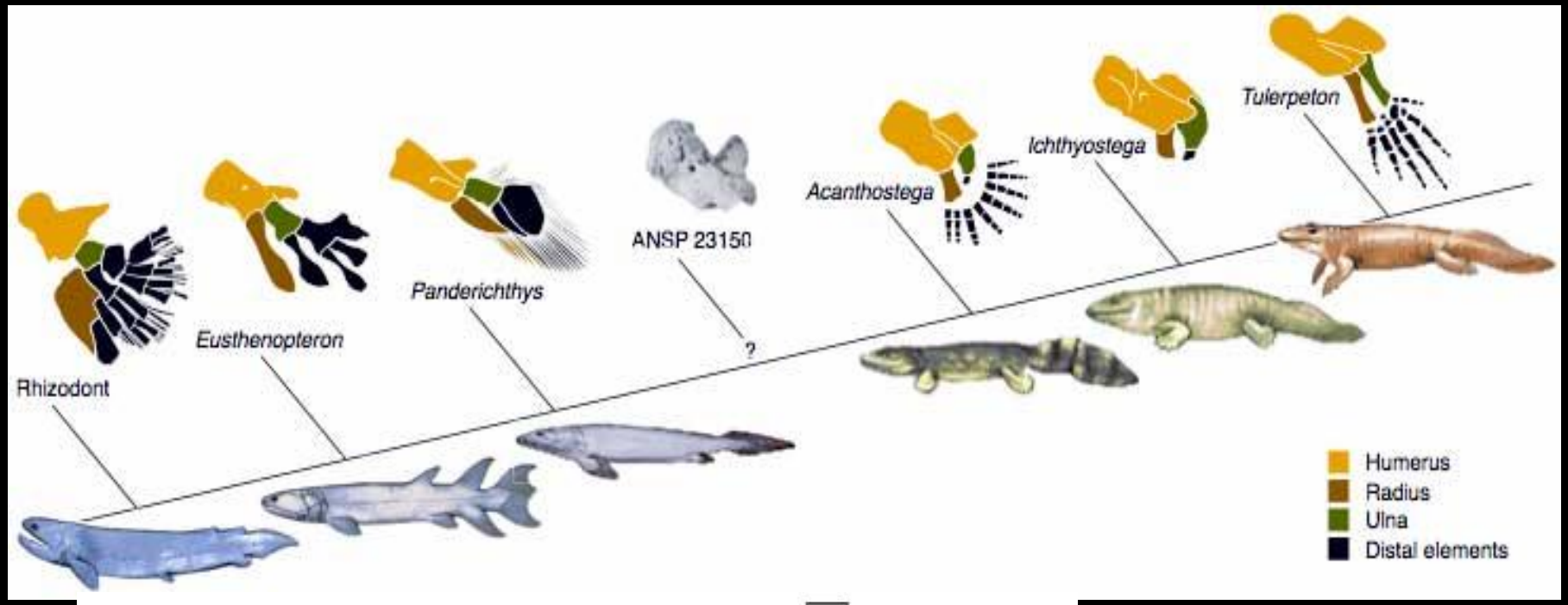
Acanthostega

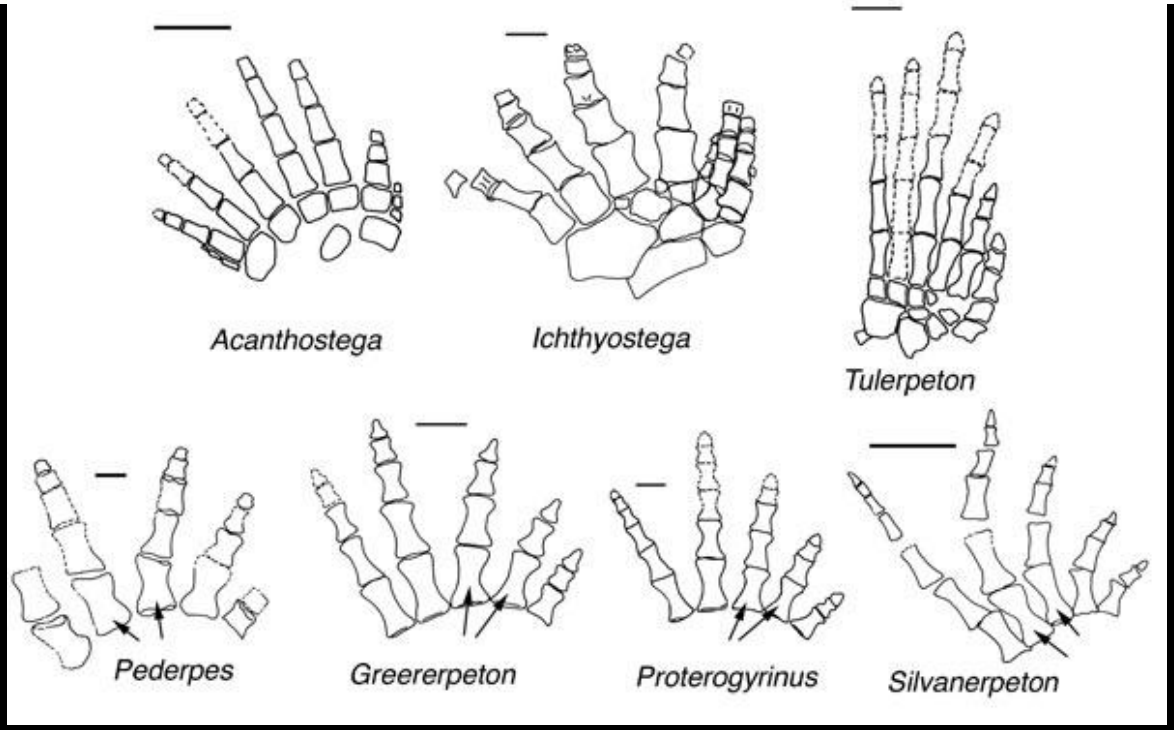


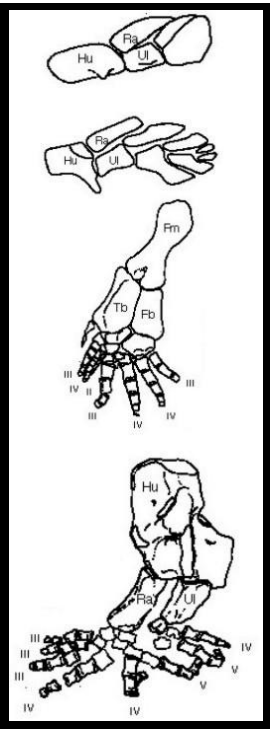
Acanthostega

Ichthyostega


a
1
2
3
4
Radius
Ulna
Humerus
b
c

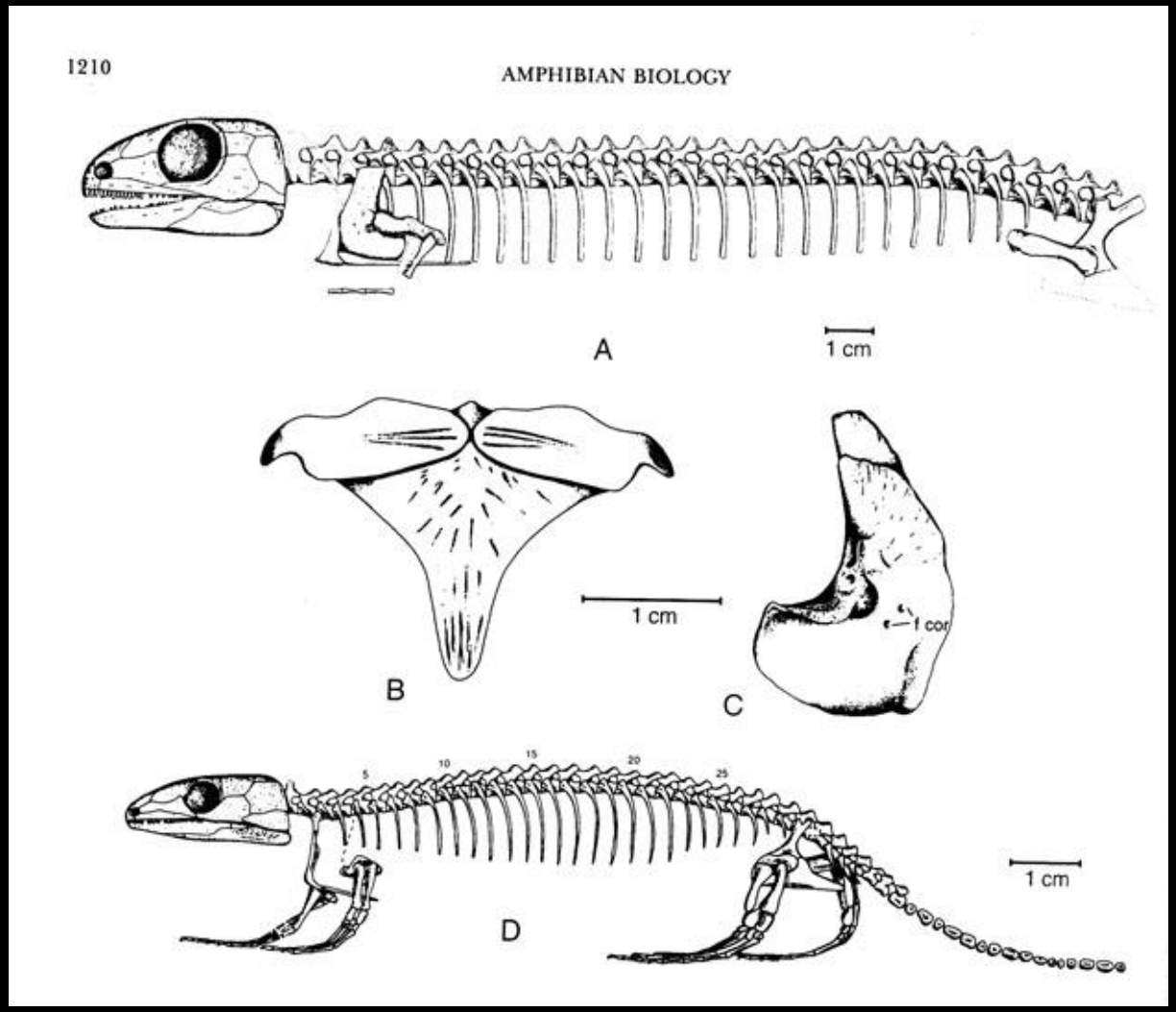

Rhizodont
Eusthenopteron
Panderichthys
ANSP 23150
?
Acanthostega
Ichthyostega
Tulerpeton
Humerus
Radius
Ulna
Distal elements


Acanthostega
Ichthyostega
Tulerpeton
Pederpes
Greererpeton
Proterogyrinus
Silvanerpeton

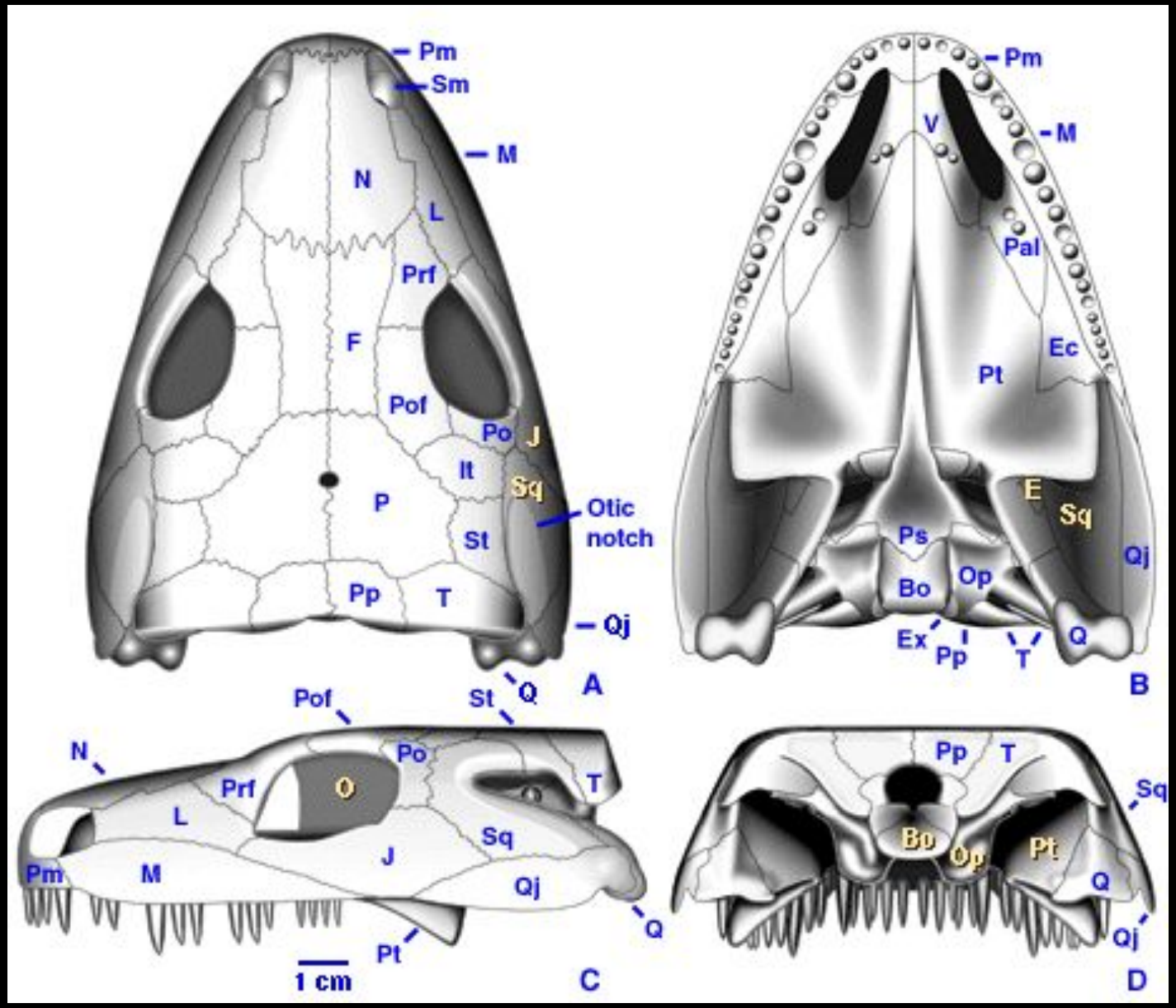

Hu
Ra
Ul
Fs
Pm
Tb
Fb
III
IV
V

Temnospondyla

Lepospondyla



Seymouria


Pm
Sm
M
N
L
Prf
F
Pof
Po
J
It
Sq
P
Otic notch
St
Pp
T
Qj
Q
A
V
Pal
Ec
Pt
E
Ps
Bo
Op
Ex
B
O
C
1 cm
D

10 cm

AMPHIBIA

APODA

около 170 вв.

Ц. и Ю. Америка, Африка, Индокитай, Индонезия

CAUDATA

около 360 вв.

Европа, Азия, С., Ц. и Ю. Америка, сев. Африка

ANURA

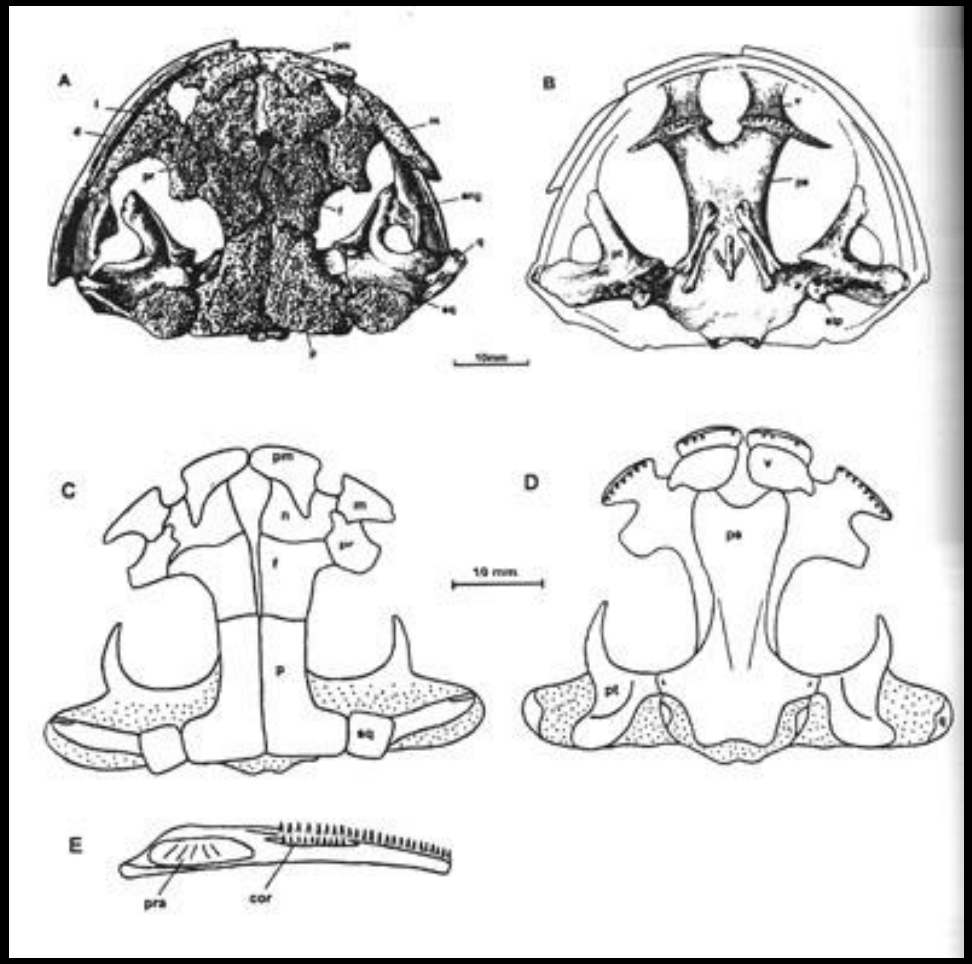
около 4000 вв.

всесветно

Gymnophiona (=Apoda)

Gymnophiona

Caudata



Cryptobranchidae

Hynobiidae

Sirenidae

Proteidae

Amphiumidae

Salamandridae

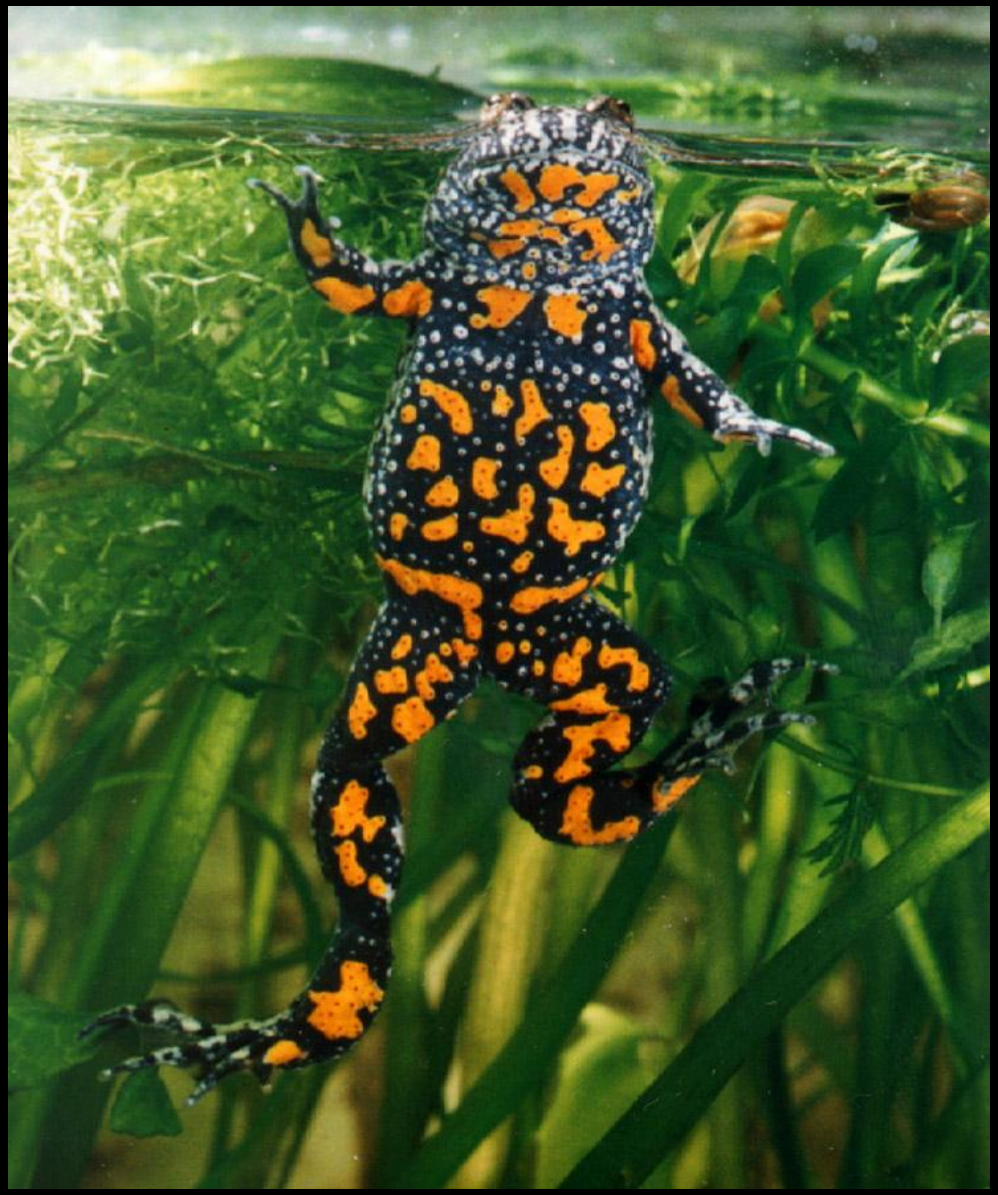
Ambystomatidae

© John P. Clare

Plethodontidae

Anura

Ascaphidae



Discoglossidae

Pelobatidae

Pipidae

Leptodactylidae

Bufonidae

Hylidae

Ranidae