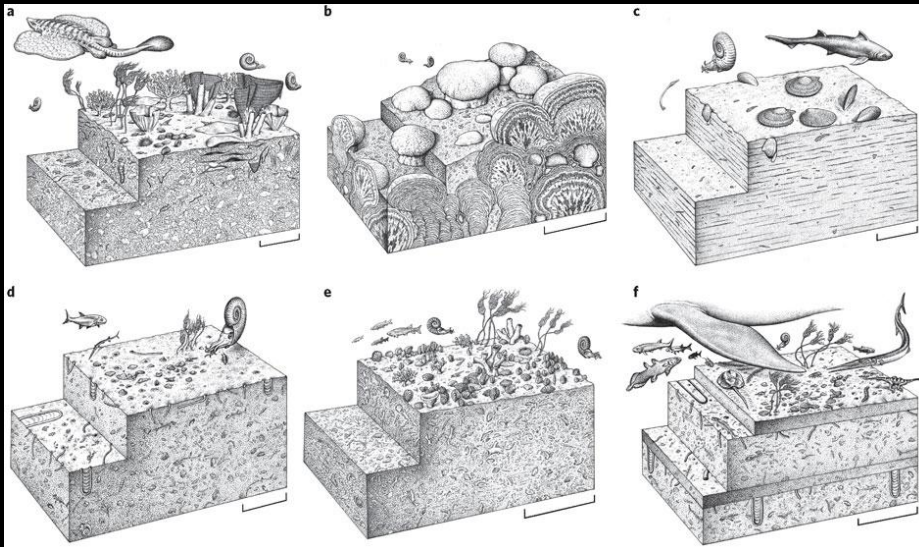




# Life slowly bounces back

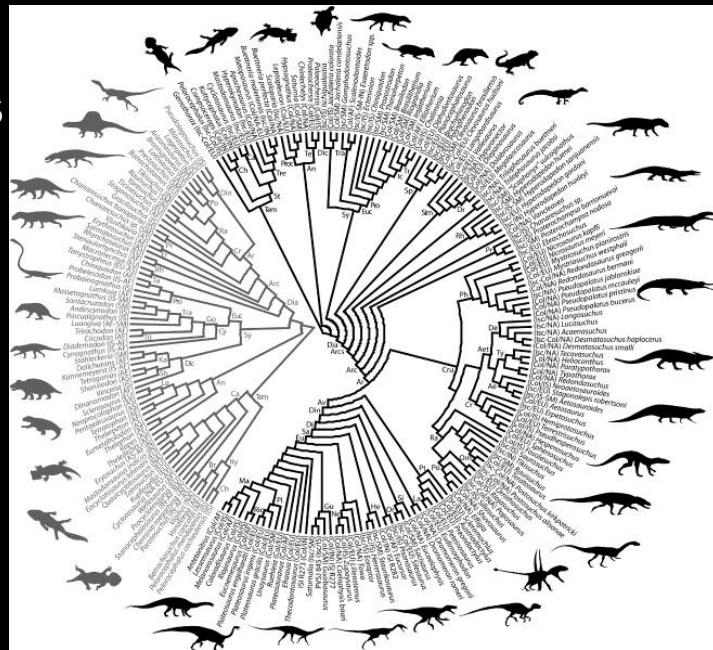


10 million years before marine recovery?

## Triassic tetrapods

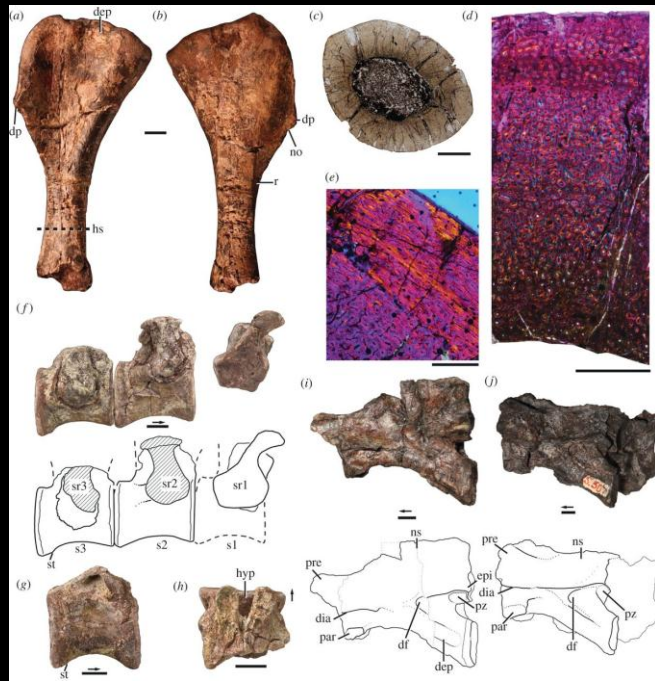
Grey =  
middle  
Triassic;

Black =  
late  
Triassic

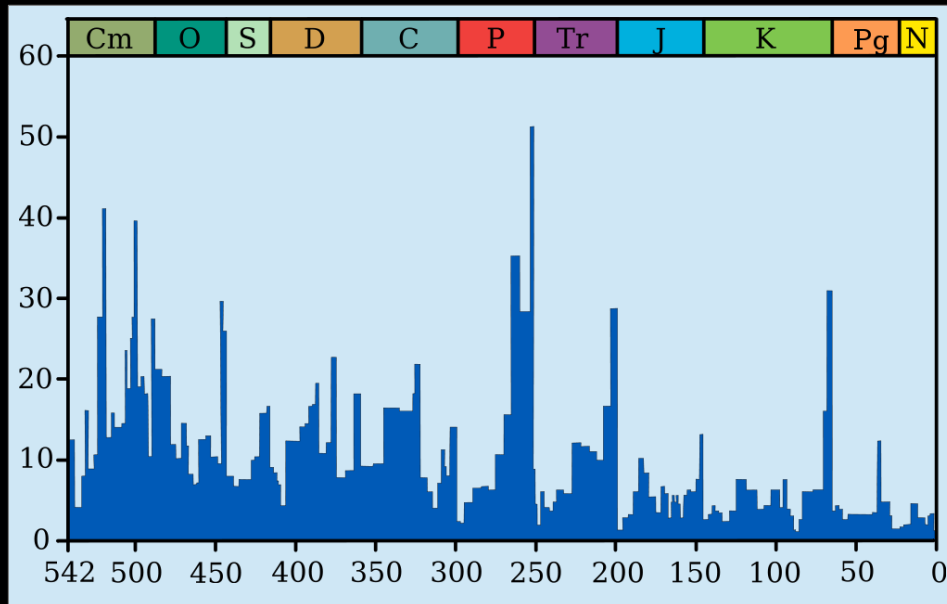


Earliest dinosaur?

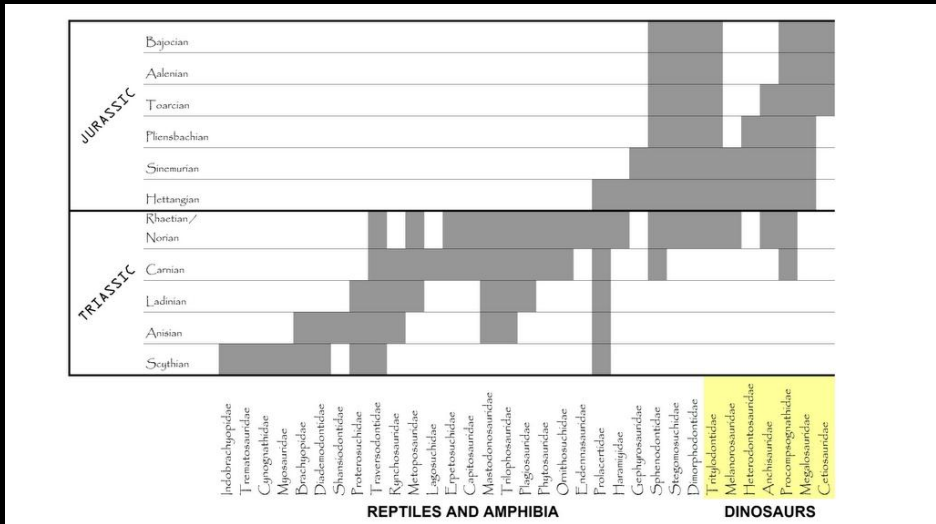
*Nyasasaurus*,  
Middle  
Triassic



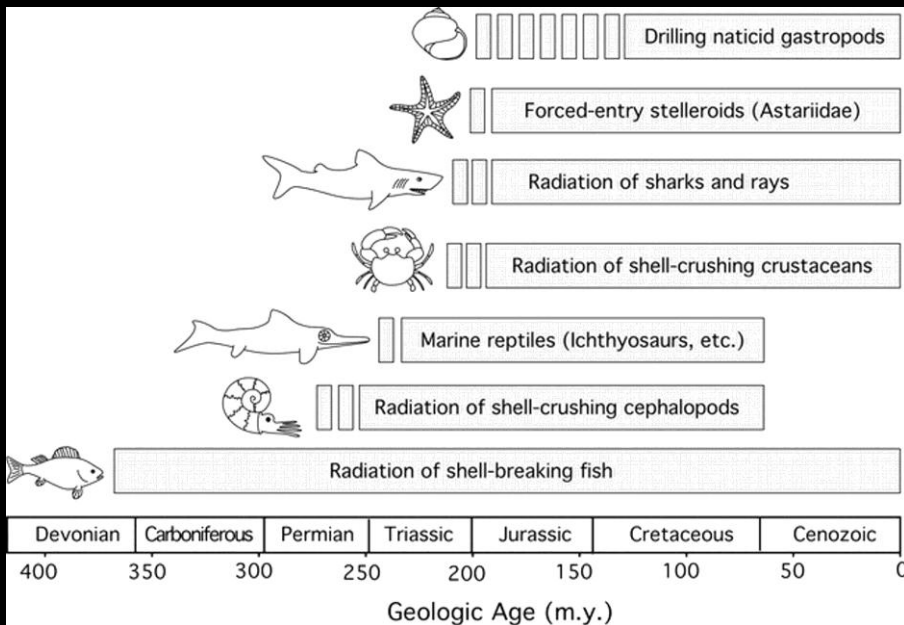
## Middle life crisis



# Middle life crisis



# MMR – Mesozoic Marine Revolution



## Modern Fauna



## Chickens and eggs

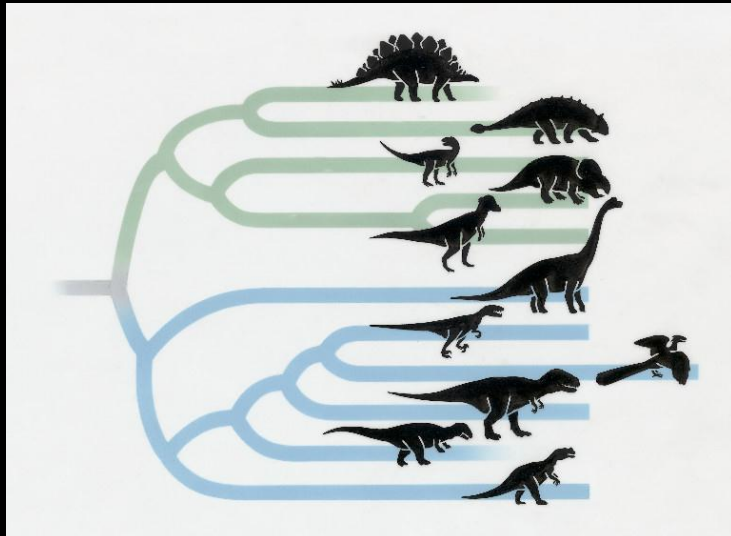


# Amniotes



First fossil eggs in late Triassic

# Dinosaur phylogeny



Ornithischia and Saurischia

## Feathers



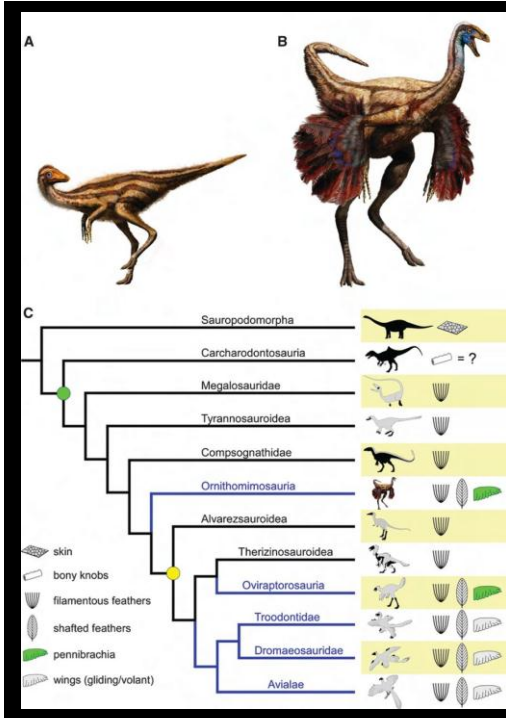
Earliest  
fossil  
feathers  
in late  
Jurassic

*Archaeopteryx lithographica*

## The first dino-bird



*Anchiornis huxleyi*

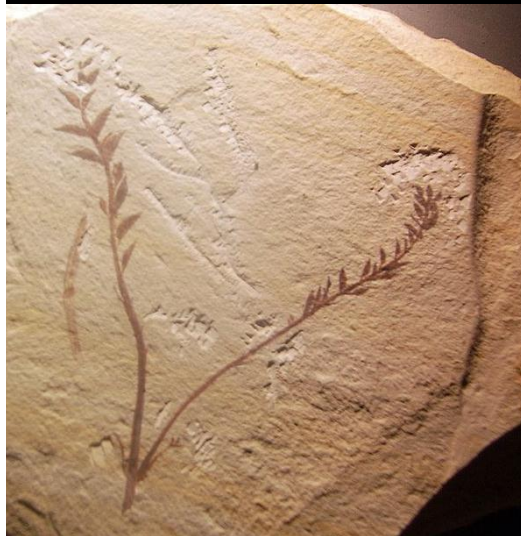
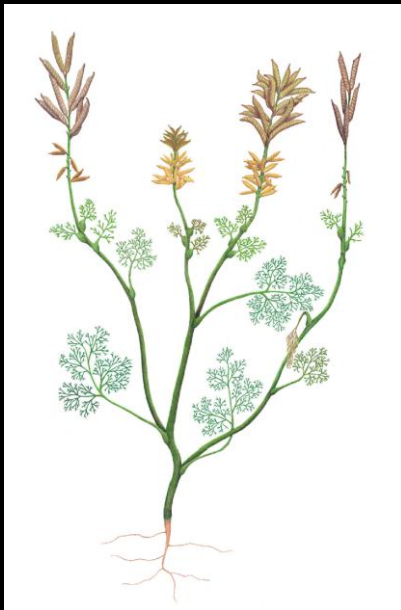


# Feathers & phylogeny

Feathers not just for birds (which aren't bird-hipped!)

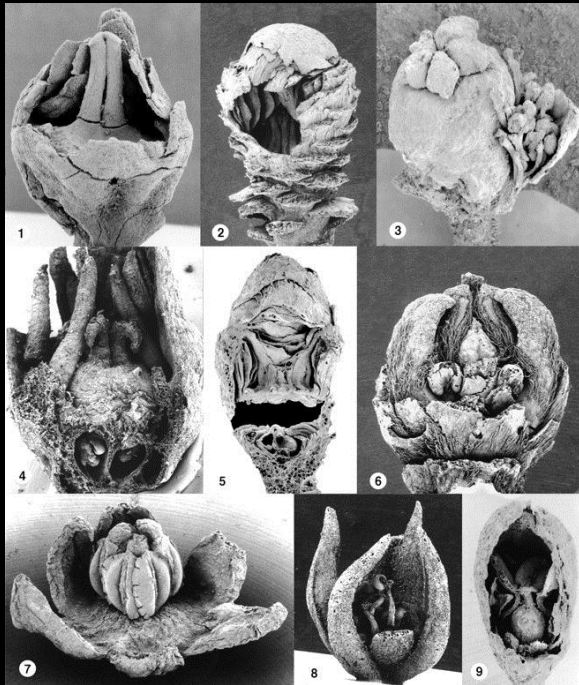
Zelenitsky et al. (2012)

# From feathers to flowers

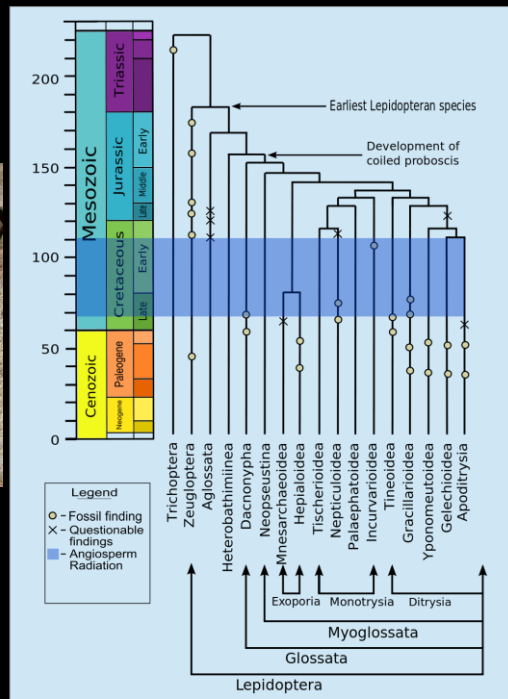


*Archaefructus*

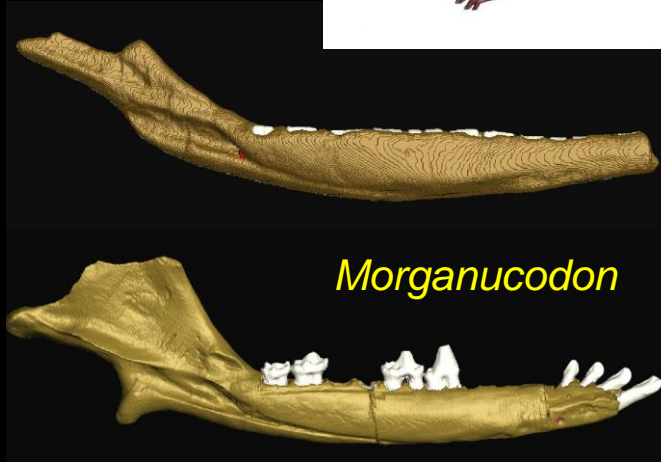
# The rise of angiosperms



# Modern flora = Insect diversity

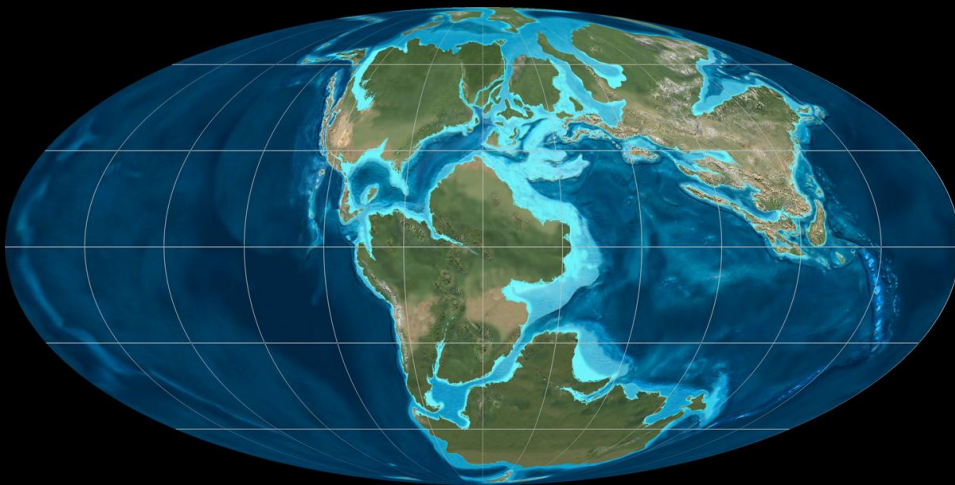


And insect-eating mammals?



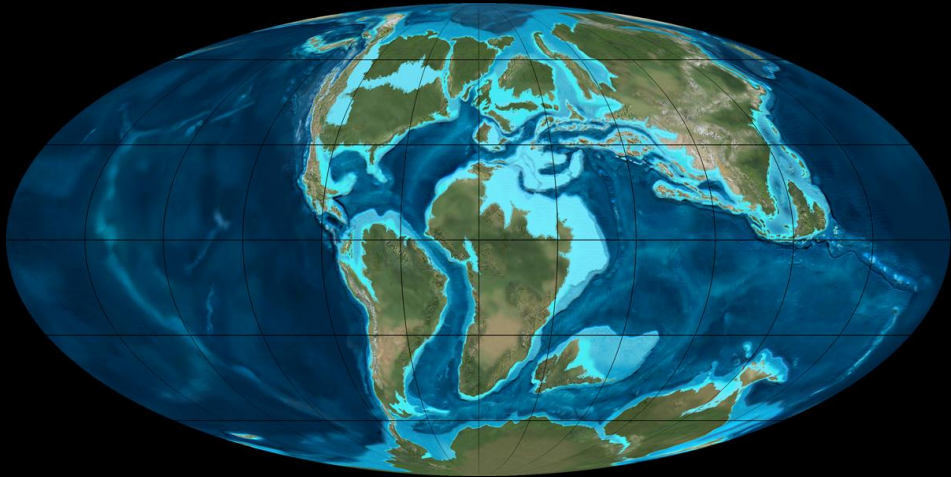
*Morganucodon*

Mesozoic break-up



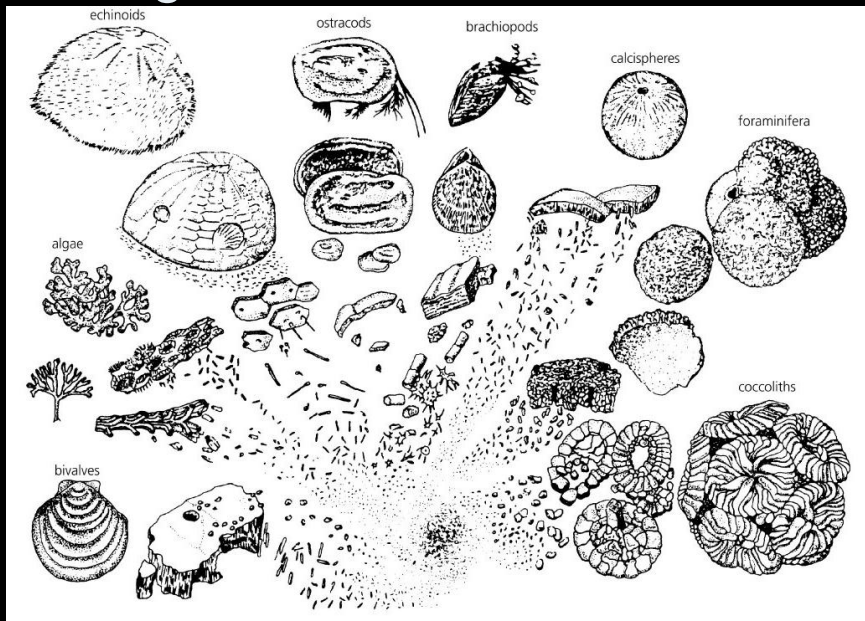
Jur-Cret: elevated rates of sea-floor spreading

# The high seas



Cretaceous thermal maximum  
(CO<sub>2</sub> at 5-18x PAL)

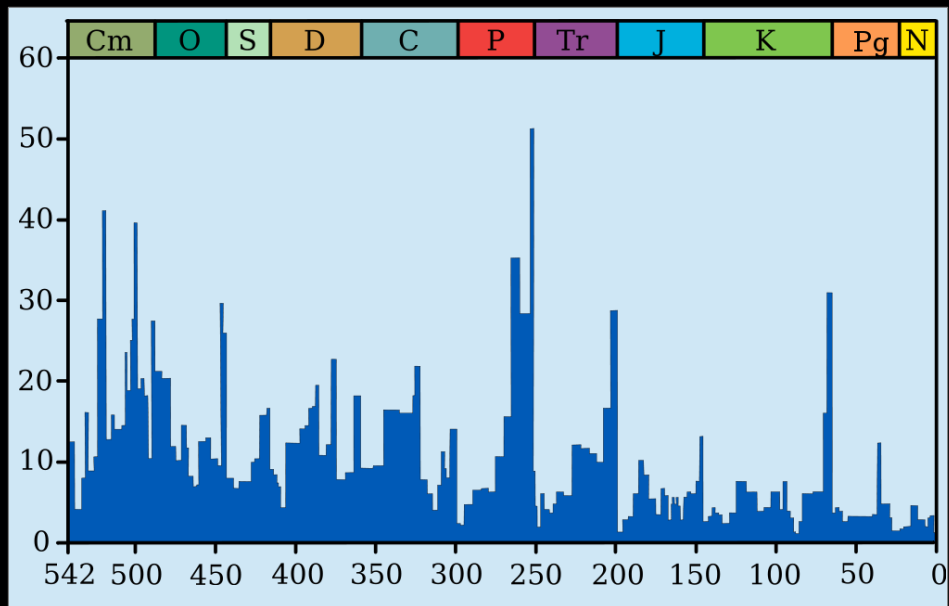
# High life in the calcite seas



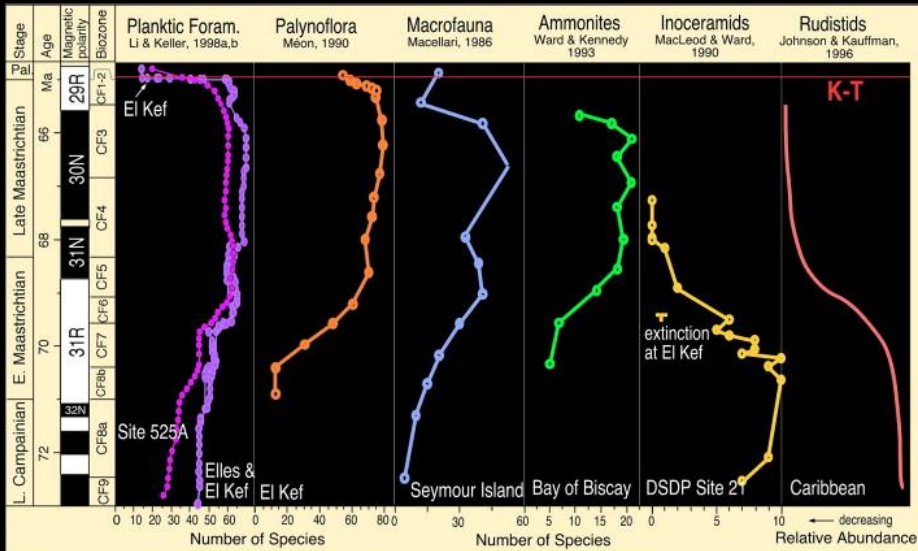
## Middle life crisis no. 2



## End-Cretaceous extinction



# End-Cretaceous extinction



Next week **The Origins of Us**



# Useful websites

## The first dinosaur?

<http://www.nhm.ac.uk/about-us/news/2012/december/fossils-could-be-first-dinosaur-to-roam-planet115644.html>

## Fossil eggshells, fragments of the past:

<http://www.ucmp.berkeley.edu/science/eggshell/index.php>

## The fossilization of colour:

<http://www.palaeontologyonline.com/articles/2012/fossil-focus-the-preservation-of-colour/>

## Why birds aren't bird-hipped:

<http://madliam.blogspot.co.uk/2012/02/why-birds-arent-bird-hipped.html>