Mesozoic: Triassic, Jurasic and Cretaceous

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1
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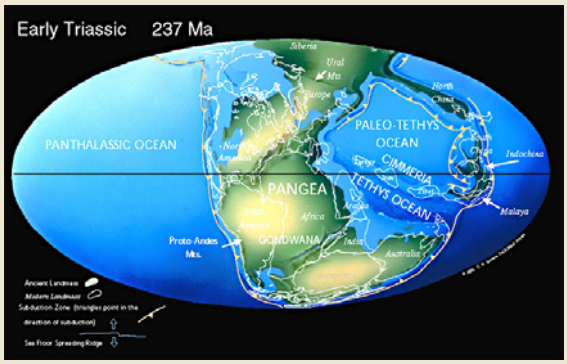

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Pangea: goes from north pole to south pole.

Mass extinctions

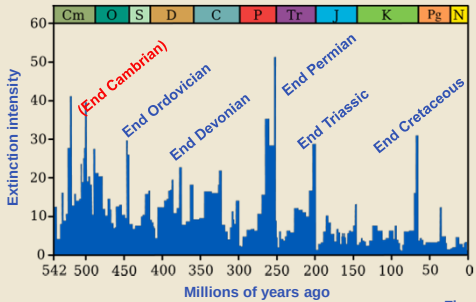

Figure 27-14

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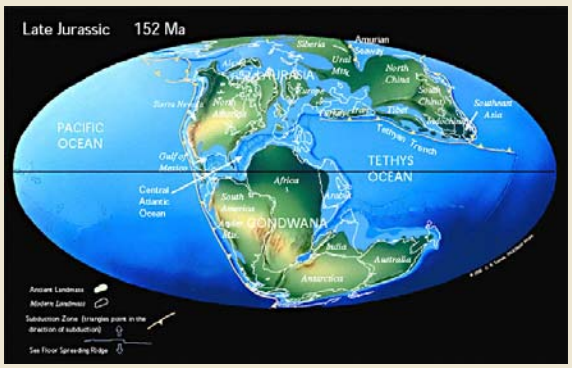
another mass extinction in Triassic, mostly affects marine environment.

As pangea broke up caused mass geographic activity.



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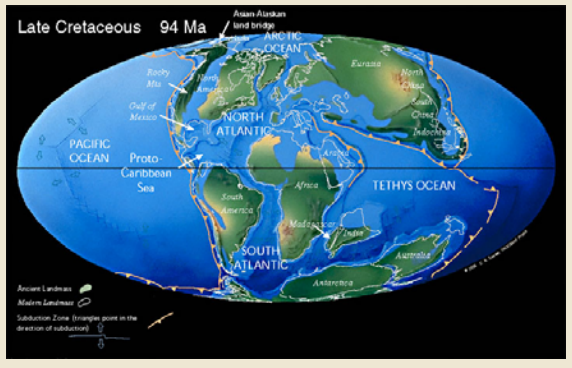

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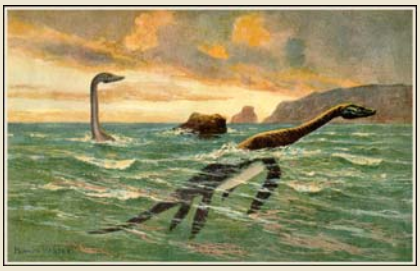
Plesiosaurs Video



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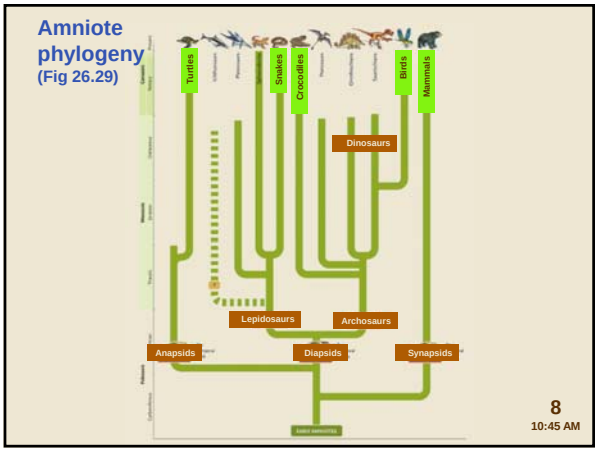
reptiles feeding on bony fish that survived.

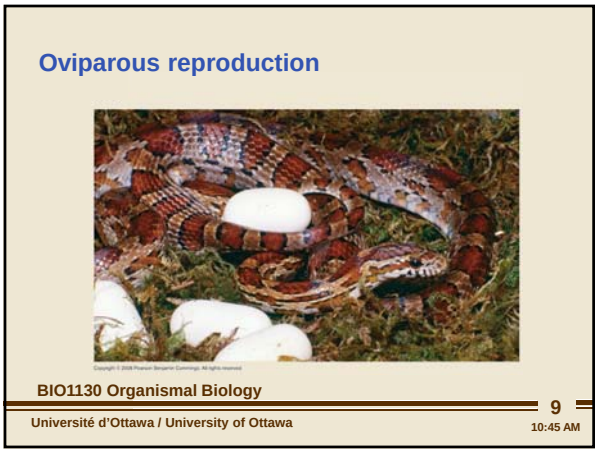
removed the shell to keep up with the fish. with shell they were less mobile.



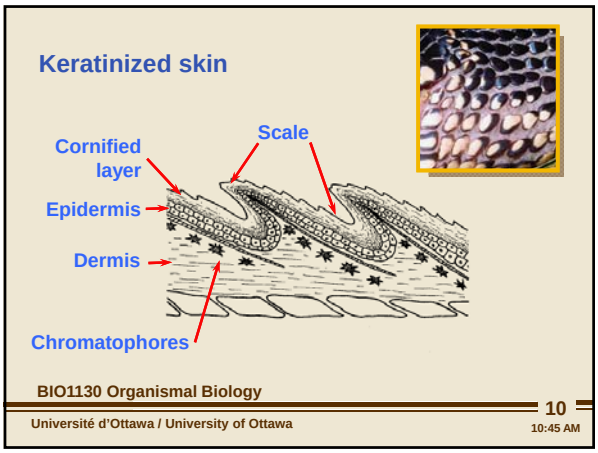
Synapsis: mammals.

Diapsids: birds and reptiles

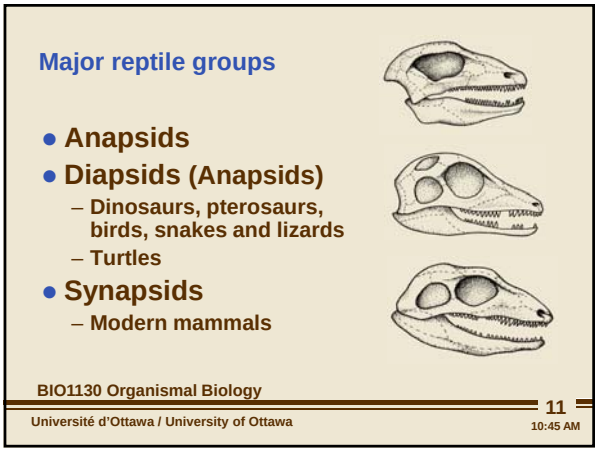
Anapsids: Turtles.



have not waterproofed their skin.



Use protein Karatin. used to waterproof skin. Can be thin like ours, develop more into scales, hair, nails, horns.

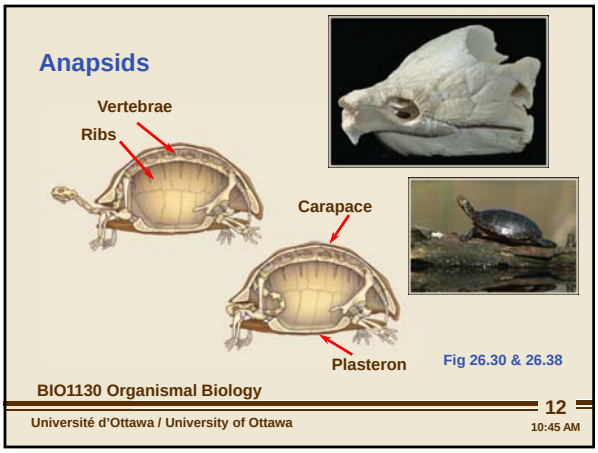


with the lower skull going into the skull cavity, it limits brain development.

Synapsis: muscle outside skull. 1 opening.

Diapsids: have 2 openings. allowes for more powerful jaw for feeding.

Anapsids: lost their opening.

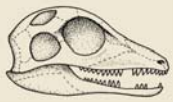


Fuses bone. also fuse bone in the skull and lost the opening in the head. Appear to be Diapsids that lost their opening for jaw muscle.

no teeth, less demand for jaw muscle

Major diapsid groups

- **Extinct**
  - Dinosaurs and pterosaurs,
- **Extant**
  - Snakes, crocodiles and lizards



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13
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Extant: all and the birds. Shared the same common ancestor.

Extinct diapsids

- **Saurischia**
- **Ornithischia**
- **Pterosaurs**

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14
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solved moving problem with amphibians had.

Realignment of bones in pectoral and pelvic girdles.

perfectly aligned with the center of gravity, better movement and agility.

Extinct Diapsids

Saurischian dinosaurs

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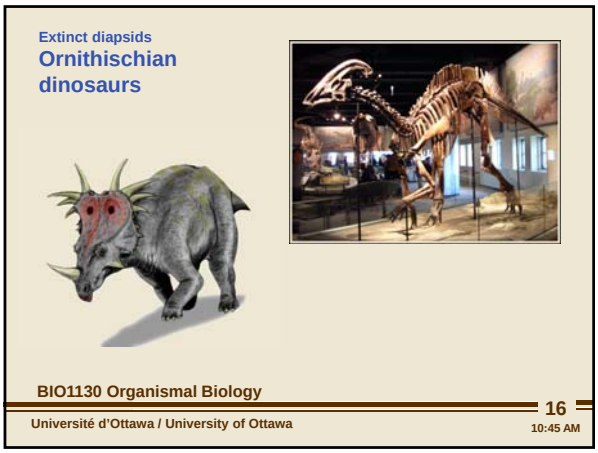
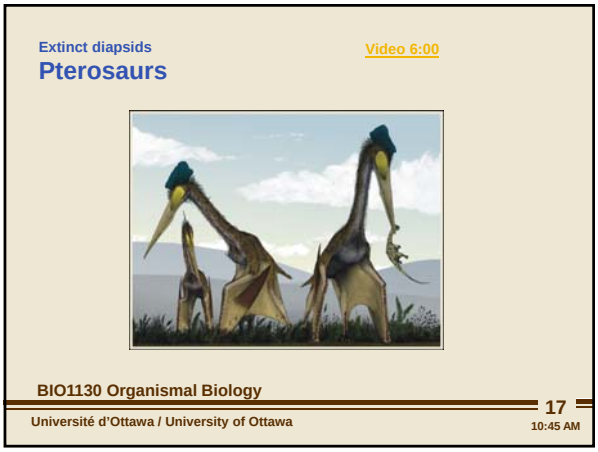
long necked dinosaurs



short herbivores.



develop flight. unusual wings.

Membrane attached to 5th digit (small finger) all the way down to side.

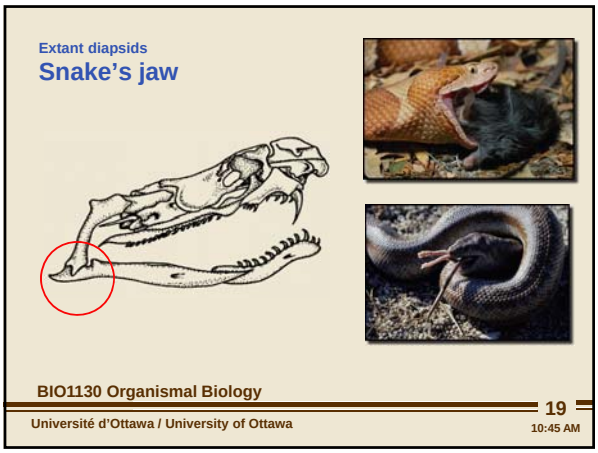
Walk on 4 digits.

snakes lost legs. paired limbs.

since they have no hands to hold them down, they have to immobilize

prey. 1) Use poison to shut down nervious system, 2) wrap arround

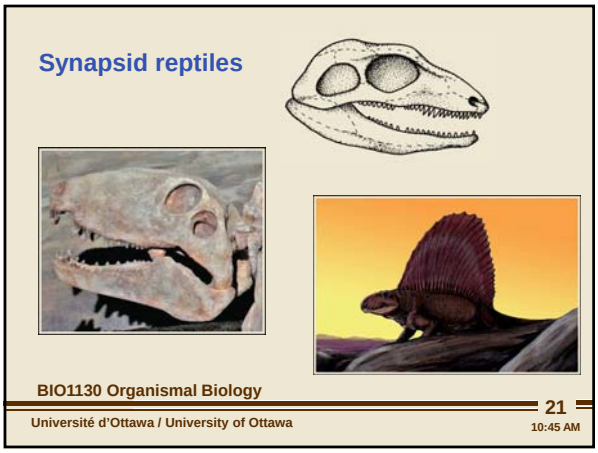
prey and strangle it.



swallow prey whole. Can open their mouths very wide.

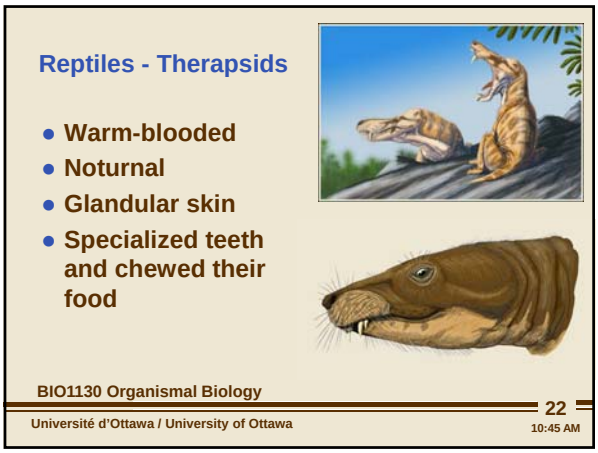
they are living fossils. have not changed over time.

crushing jaws: can hold onto prey and crush it, thrash around to tear prey limbs off.



most reptiles are ectothermic (cold blooded)

fans positioned toward sun to regulate temperature.

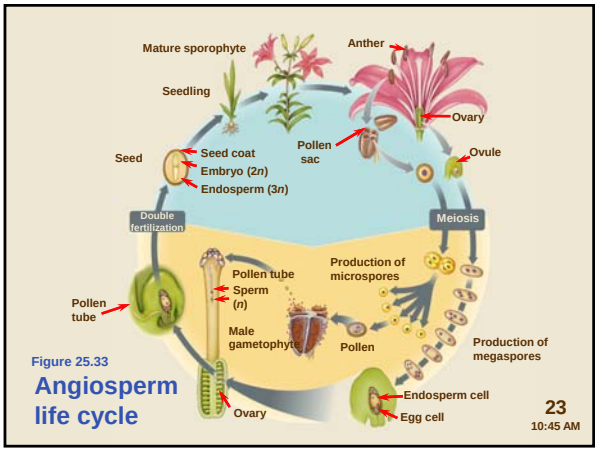


endothermic.

if ectothermic, digestion relies on warm blood.

active at night when ectotherms were asleep.

specialized teeth so they could chew prey rather than just hold .



invest alot of energy and effort in megaspores that may not be

pollinated.

only develop nutrient for pollinated embryos unlike gymnosperms.

Archegona: only produced 1 metabolic product.

from egg, 1 spore turn into egg, 2 from opposite sides join in middle

and the rest shutdown. only 1 opening in megaspore.

2 nucleus- tube and sperm.

tube- nuclear material.

sperm- 1 mitotic division - 1 fuses with egg forming zygote, other

joins 2 in the middle of megaspore (3n)

relationship between insects and flowering plants create a diversity

changing the world. Plants dont require wind for polination, insects will

do it for them.

Insect plant coevolution

- Bees
- Butterflies

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25
10:45 AM

when flowering plants come along, bees and butterflies will come with them.

they develop fruits. fruits are there for invertebrates to eat them and digest the seeds. this causes seed dispersal.

Seed dispersal

Figure 30-20b

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26
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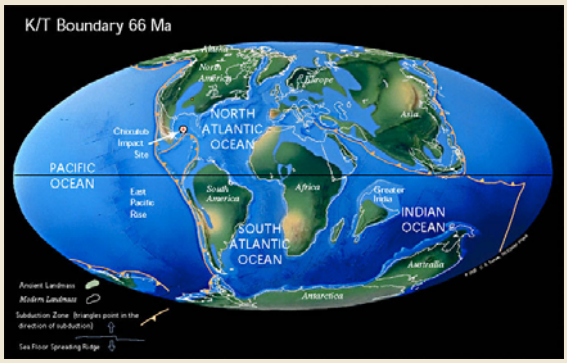

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27
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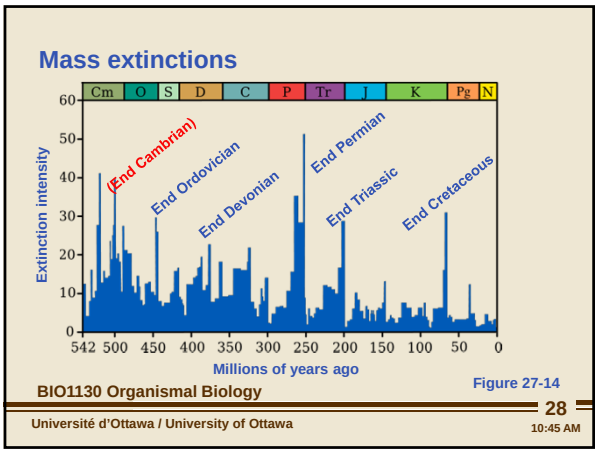

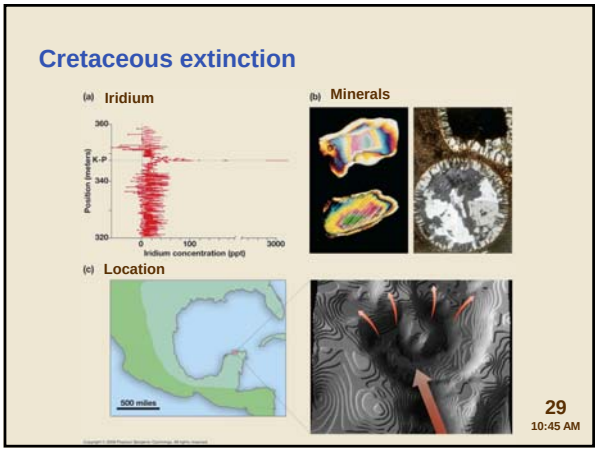

large meteorite impact.

Caused meteorite winter, temperate fell and dinosaurs went extinct.

carnivors went disappearing. food chain collapses.

dinosaurs so abundant, have large impact on plante when they fed.

ate all the plants, inects died, insect predators died, etc...

ecologically destroyed the planet.