Phanerozoic - Cenozoic

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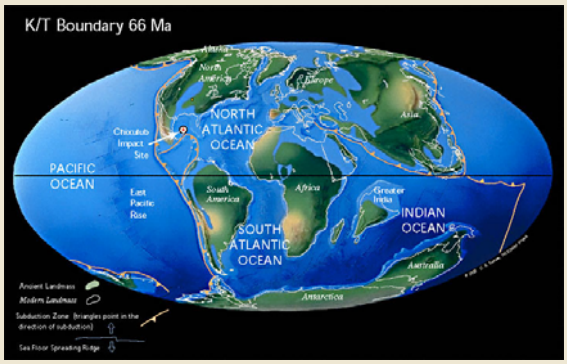

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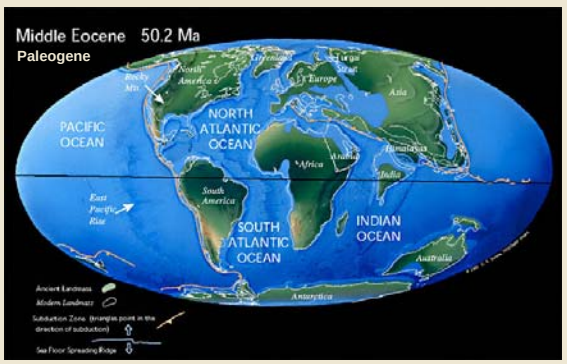
the continents are shifting tot heir final locations and one of the survivors are the feathered reptiles



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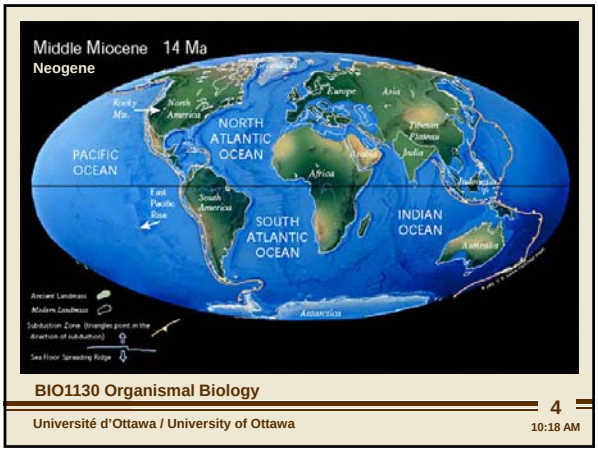

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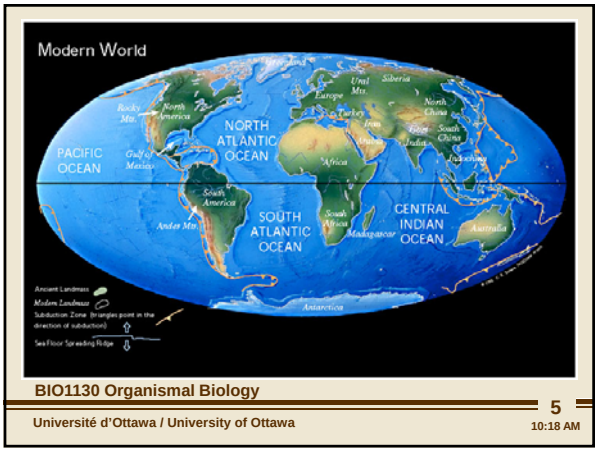

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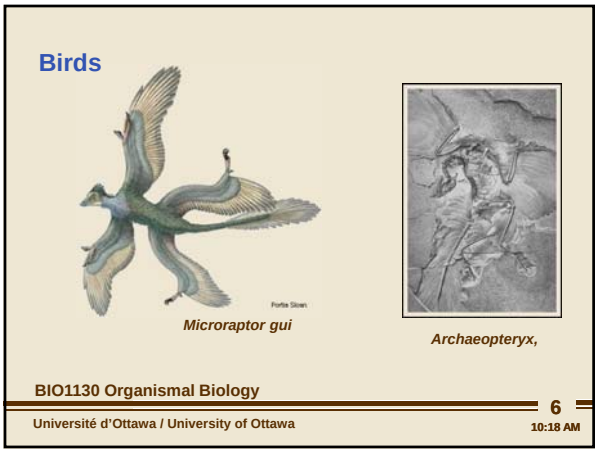

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feathers were in fact common in dinosaurs, the feather becomes a light weight keartinized structure that can increase the SA enough to flap and fly, this is combined with a lightening of the body's structure and the other things that happens in birds is that they minimize the number of bones, we do not have tails, a bony jaw instead a keratinized jaw and in addition to that we centre the body mass to around one centre the gravity to which we attend the muscles that generation lift in flight, the little muscle on the inside lifts the wing the one on the outisde lowers it, also we produce hollow ones with air in them so their bones are strong in one direction and light in another

Feather structure

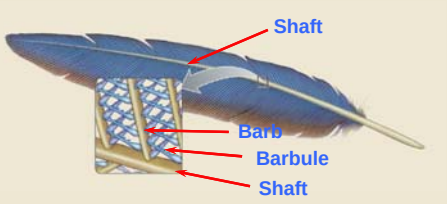

Figure 26.41d

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Flight adaptations skeleton

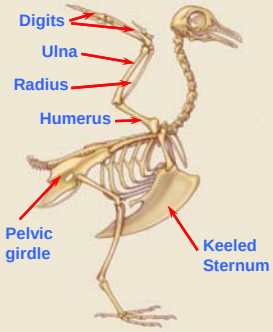

Figure 26.41

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Flight adaptations skeleton

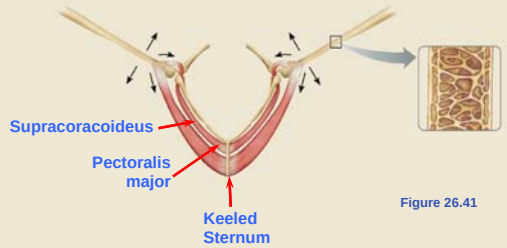

Figure 26.41

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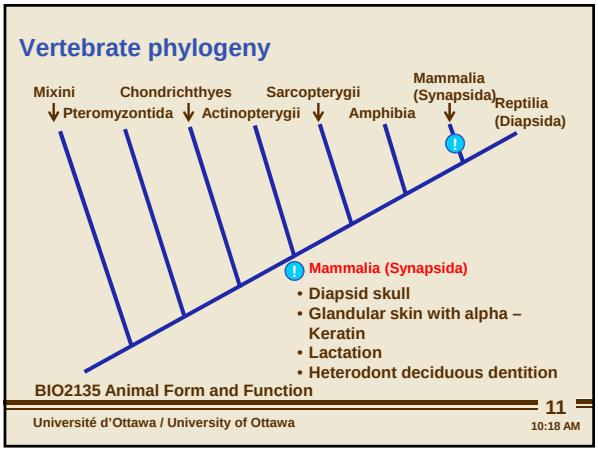
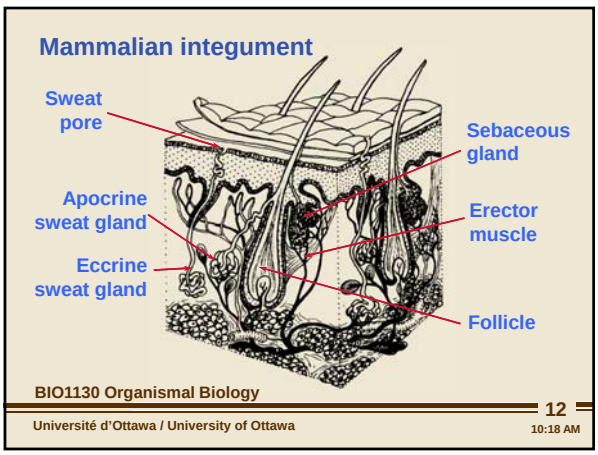
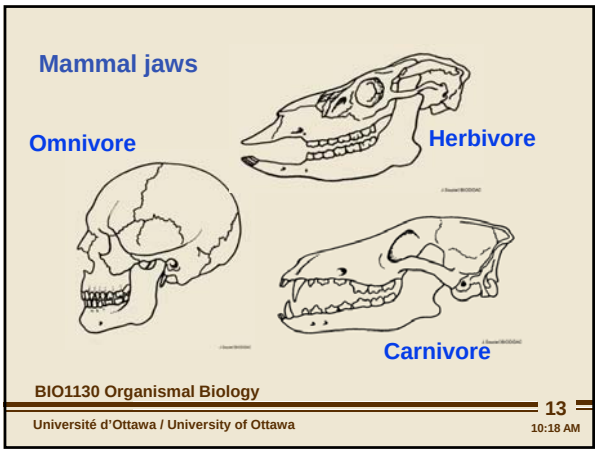
towards the end of the dinosausr there may have been parental care in them as well,



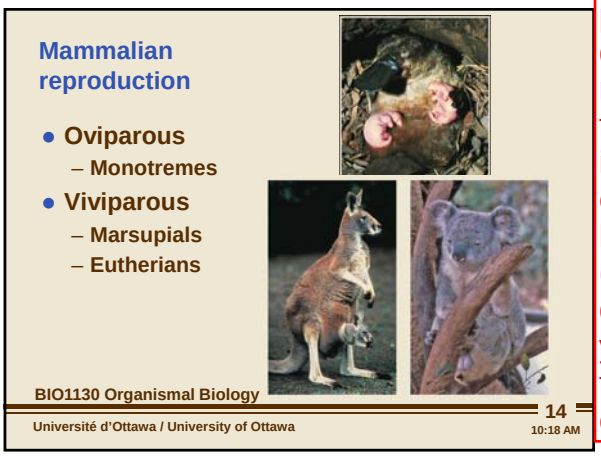
the glandular skin is one if the ways in which we use our hair to thermoregulate, the birds used their feathers and they do not have glands across their skin and that will be specialized from being oils to heat the hair supple end up beign nutrients to feed teh young (lactation)



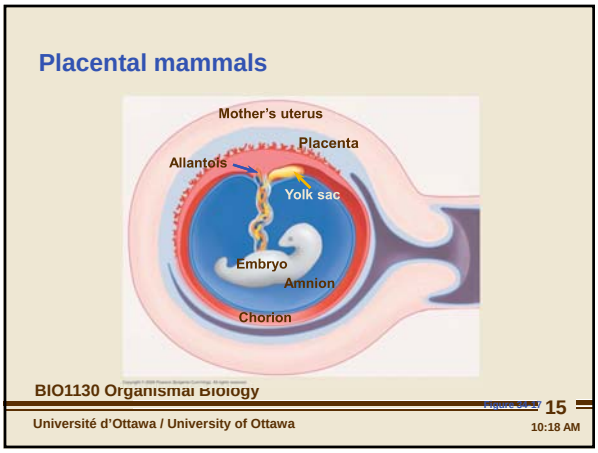
the hair are capable fo being raised and lowered, different hair types insulated covering, homeostasis just like the birds with their feathers, but what's different is the glands , the apocrine ones keep the hair from being brittle, the sweat gland produces moisture for evaporation (thermal regulation) and other glands associated with smell and communication



the teeth vary in mammals, using their denticians they can modify their food, the mammals and arthropods are the only 2 groups that can pre modify their food



there is still a group of amals that lay eggs they are platypuses so she hatches the egg and on the durface of their body the glandular that produces a nutrint mix that is th emmary gland
the marsupials and eitherians give birth internally in marsupials we have in utero protection of the embryo but no maternal-child blood barrier so it has to climb out to the uterus to the pouch (marsupium) where there is a mammary gland so it does not get rejected so they have evry immature young
the eutherians have a perfcet barrier so the embryo can stay insidet hte uterus until it is a viable young,



Parental care

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the parental care periods varies,

Macroevolution

- Evolution above the level of species
- Includes
  - Adaptive radiations of taxa
  - Biodiversity changes over time (paleontology)
  - Extinctions
  - Speciation
  - Origins of novel structures

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microevolution is how we get species
macroeveolution is about changes in all of the species, eg adaptive rediations, how did we get this branching tree and how did it change over time and what are the orgins of the various strcutures so for the last 2 months we did macroevolution