

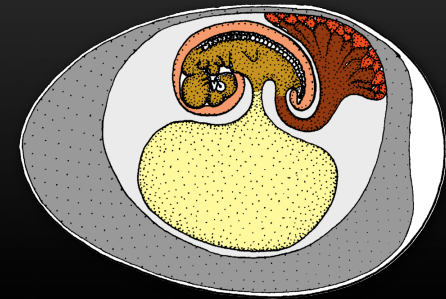
AMNIOTES

reptilia, aves, mammalia

AMNIOTES

- **“GROUP” AMNIOTA**

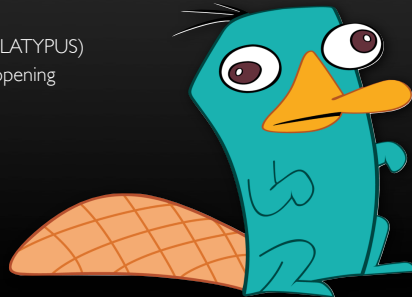
- All with internal fertilization
- Development of cleidoic egg with four extraembryonic membranes – waterproof covering for embryos is main adaptation for living a completely terrestrial life, even more important than limbs or lungs
- Waste is in the form of uric acid – water insoluble so eggs don't get contaminated



MAMMALS

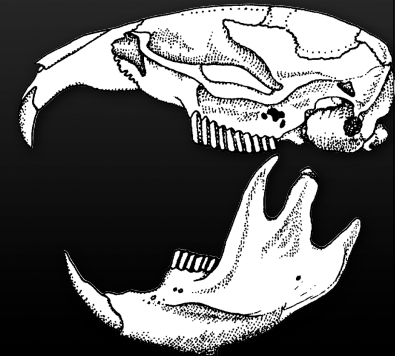
- **CLASS MAMMALIA**

- Endothermic, 4-chambered heart, parental care
- Hair for displays, defense, and insulation
- Glandular skin, modified sweat glands form mammary glands that produce milk to nourish young
- Diaphragm muscle allows for more efficient breathing
- Heterodont teeth, ear bones homologous to reptilian jaws
- Dentary-squamosal jaw articulation
- **SUBCLASS PROTOTHERIA**
 - **ORDER MONOTREMATA (ECHIDNA, PLATYPUS)**
 - Lay eggs, no mammary glands, cloacal opening



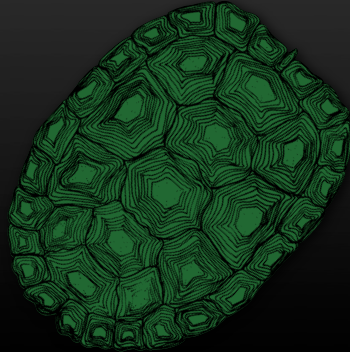
- **SUBCLASS THERIA**

- Fetus develops in uterus
- **INFRACLASS METATHERIA**
 - **ORDER MARSUPIALIA**
 - Young develop in pouch after birth
 - Males with bifurcated penis below scrotum, females with two uteri
- **INFRACLASS EUTHERIA**
 - Placenta nourishes embryo, milk nourishes juveniles
 - Extensive parental care
 - Males sometimes with baculum
 - Very diverse and successful group



REPTILES?

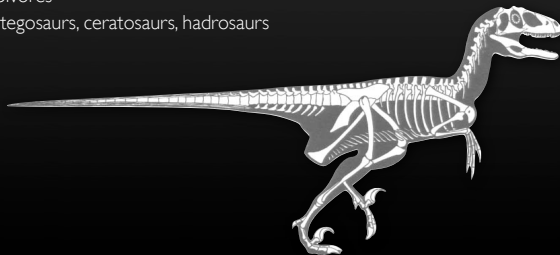
- "CLASS REPTILIA"
 - Epidermal scales – heavily keratinized
 - Ectothermic, strong skeletons for better locomotion
 - Secrete waste as uric acid to conserve water
 - Quadrate-articular jaws (as opposed to dentary-squamosal)
- SUBCLASS TESTUDINATA
 - ORDER CHELONIA (TURTLES)
 - Shells, no teeth, varied diets
 - Anapsid skulls (secondarily derived)



- SUBCLASS DIAPSIDA
 - 2 temporal fenestrae for jaw muscle attachment
- INFRACLASS LEPIDOSAUROMORPHA
 - ORDER SPHENODONTA (TUATARA)
 - ORDER SQUAMATA (LIZARDS, SNAKES, ETC.)
 - Lizards – have legs, caudal autotomy, various feeding modes
 - Snakes – legless, no eyelids, movable jaws for eating large prey



- INFRACLASS ARCHOSAUMORPHA
 - ORDER CROCODYLIA (CROCS, GATORS, ETC.)
 - All living forms are aquatic
 - Parental care, 4-chambered heart
 - ARCHOSAURIA (DINOSAURS)
 - Many bipedal, maybe endothermic with 4-chambered heart
 - ORDER SAURISCHIA (LIZARD-HIPPED)
 - Theropods like T-Rex and Raptors
 - Long-necks - sauropods
 - CLASS AVES!?
 - ORDER ORNITHISCHIA (BIRD-HIPPED)
 - Primarily herbivores
 - ankylosaurs, stegosaurs, ceratosaurs, hadrosaurs



BIRDS

- CLASS AVES
 - last of the archosaurs
 - Endothermic, 4-chambered heart, parental care
 - Feathers and wings for flight and insulation
 - Physiology highly modified for flight:
 - Reduction and fusion of bones, efficient breathing, strong muscles, loss of teeth, and unique, highly efficient respiratory system



