

Lab 2: Mammalian Diversity

Monotremes, Marsupials, Xenarthra, Afrotheria,
Insectivora



Taxonomic suffixes

- These are general rules, and not all classifications follow them
- **Order** suffix –ia, -ea or –a
- **Family** suffix -idea
- **Genus** less consistent, sometimes suffix -us

Three major groups of living (extant) mammals



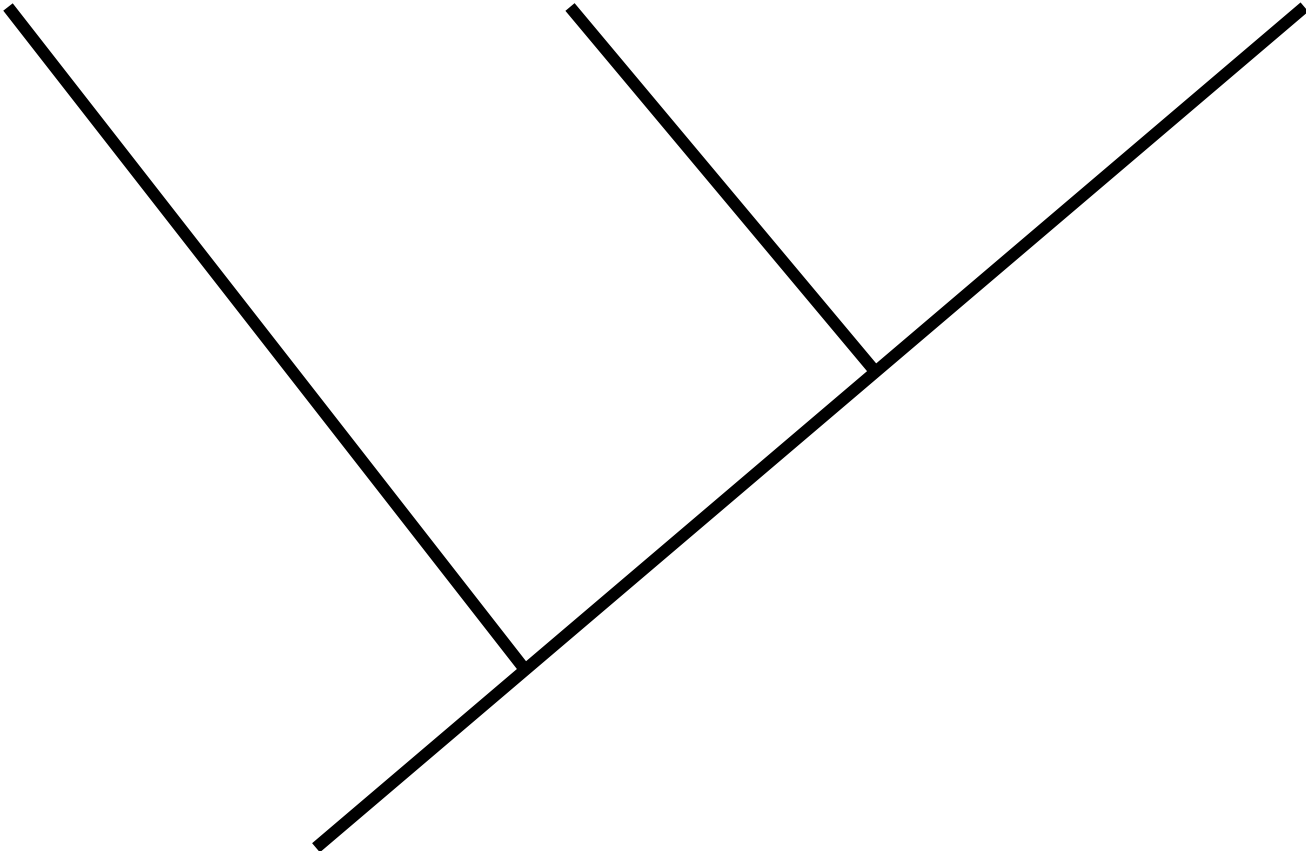
Monotremes



Metatherians (Marsupials)



Eutherians (Placentals)



Monotremes (Monotremata)

Taxonomic characteristics:

- possess pre- and post-frontal bones
- no auditory bulla
- lacrimal bones absent



Monotremes (Monotremata)

Order Monotremata

1. Family Ornithorhynchidae

- Lab Specimen: *Ornithorhynchus* (Platypus)
- Pretty obvious



2. Family Tachyglossidae

- Lab Specimen: *Tachyglossus* (Short-nosed Echidna)
- Myrmecophagous, no teeth

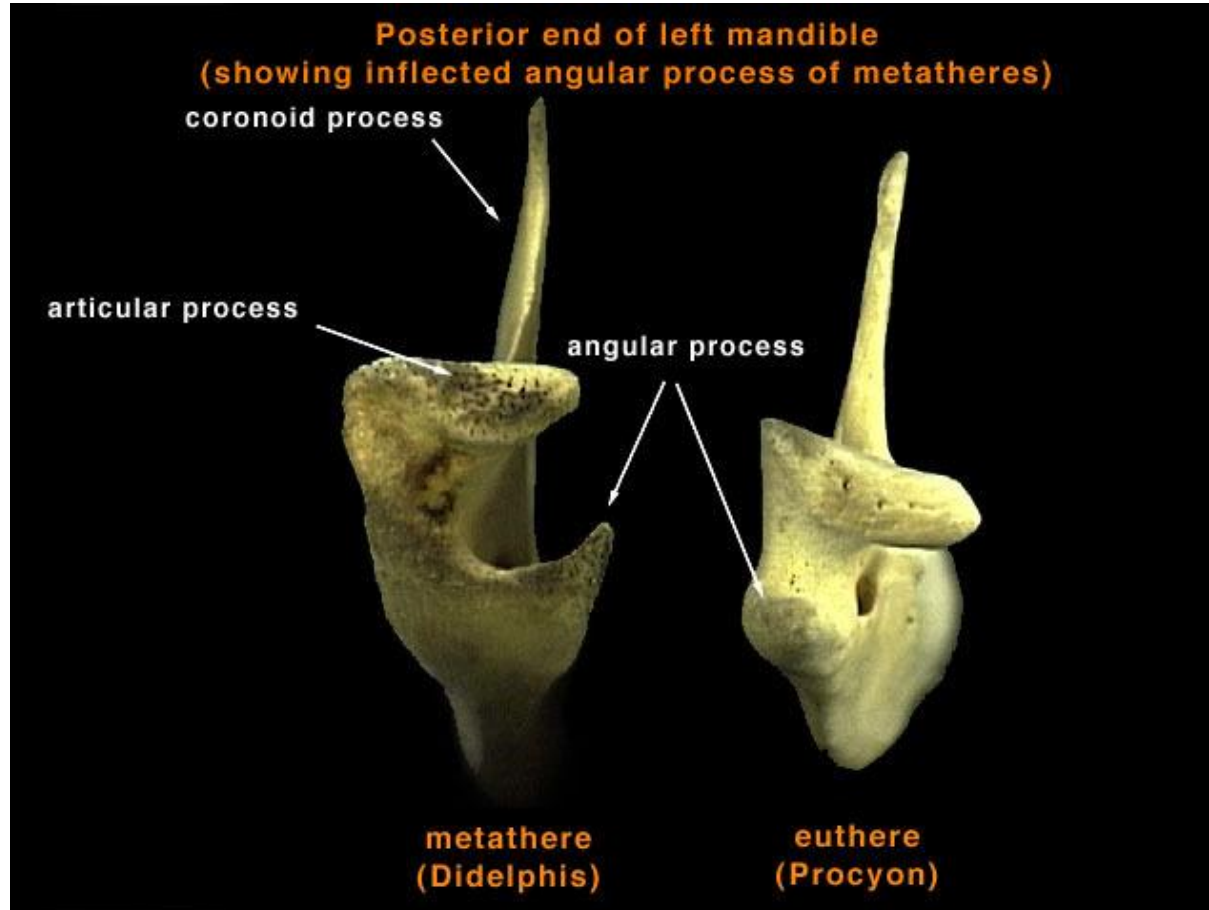


Marsupials (Metatheria)

- Taxonomic Characteristics:
 - Jugal participating in mandibular fossa
 - Angular process inflected
 - Epipubic bones present



Medial inflection of angular process



Incisors + "Cheek teeth"

- Incisor formula based **per dentary**
- This guy would have 3/3 incisors
- "Cheek teeth" means premolars and molars, basically anything posterior of the canines



Marsupials (Metatheria)

Order Didelphimorphia

Family Didelphidae

- Lab Specimen: *Didelphis virginiana* (Virginia Opossum)
 - 5/4 incisors
- Lab Specimen: *Monodelphis* (Short-tailed Opossum)
 - Only small marsupial in lab

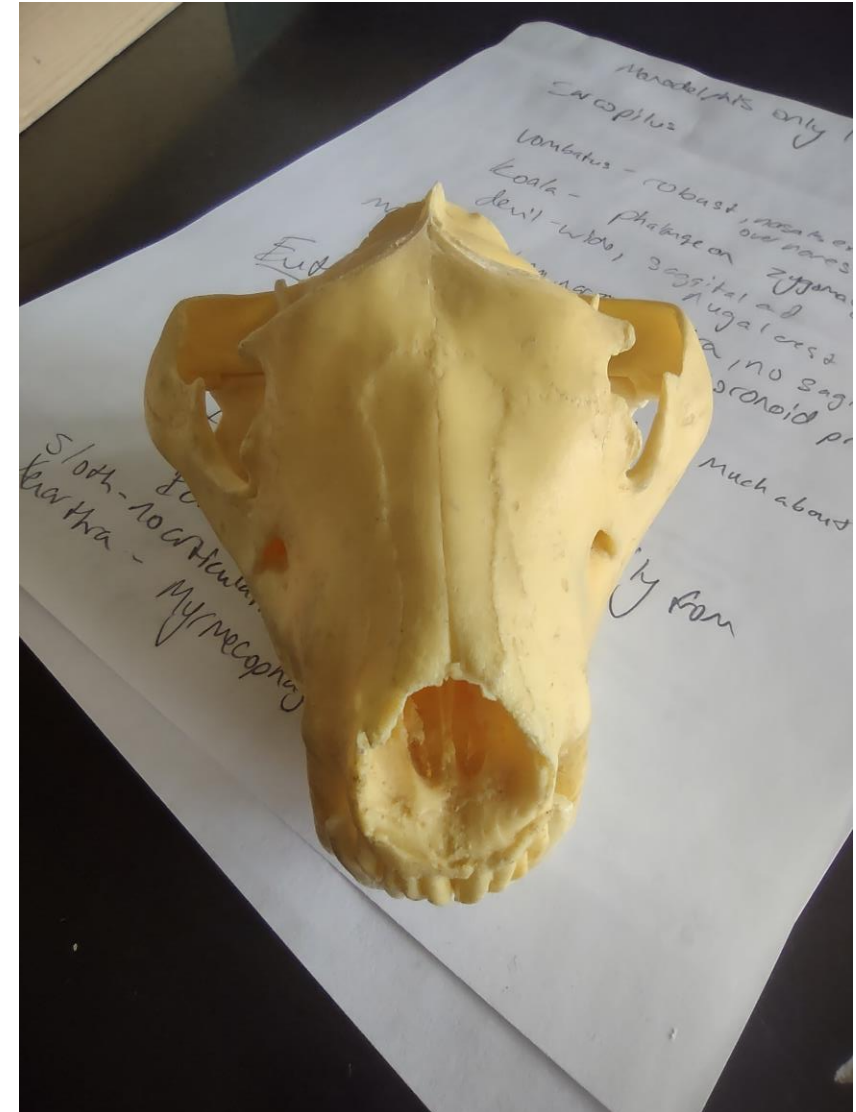


Marsupials (Metatheria)

Order Dasyuromorphia

1. Family Dasyuridae

- Lab Specimen: *Sarcophilus* (Tasmanian devils)
- Characteristic: four over three incisors, wide skull, sagittal and nugal crests



Marsupials (Metatheria)

Order Diprotodontia

Family *Macropodidae*

- Lab Specimen: *Macropus* (Kanagroo)
- Long, narrow rostrum;
- no sagittal crest;
- HUGE coronoid process!



Marsupials (Metatheria)

Order Diprotodontia

Family Phascolarctidae

- Lab Specimen: *Phascolarctus* (Koala)
- Big ridge on zygomatic process of squamosal
- Shorter rostrum

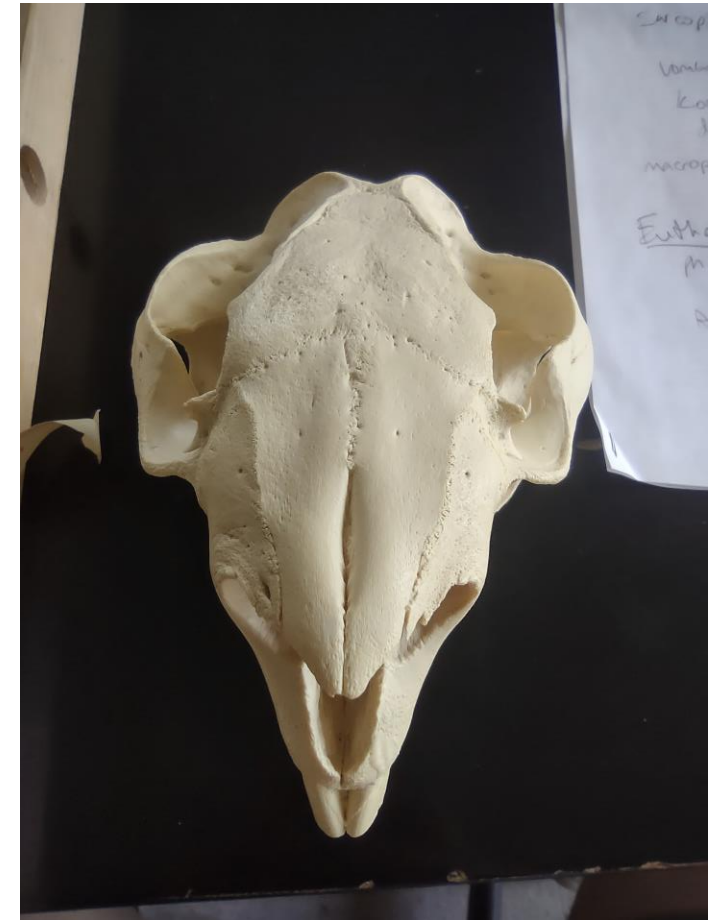


Marsupials (Metatheria)

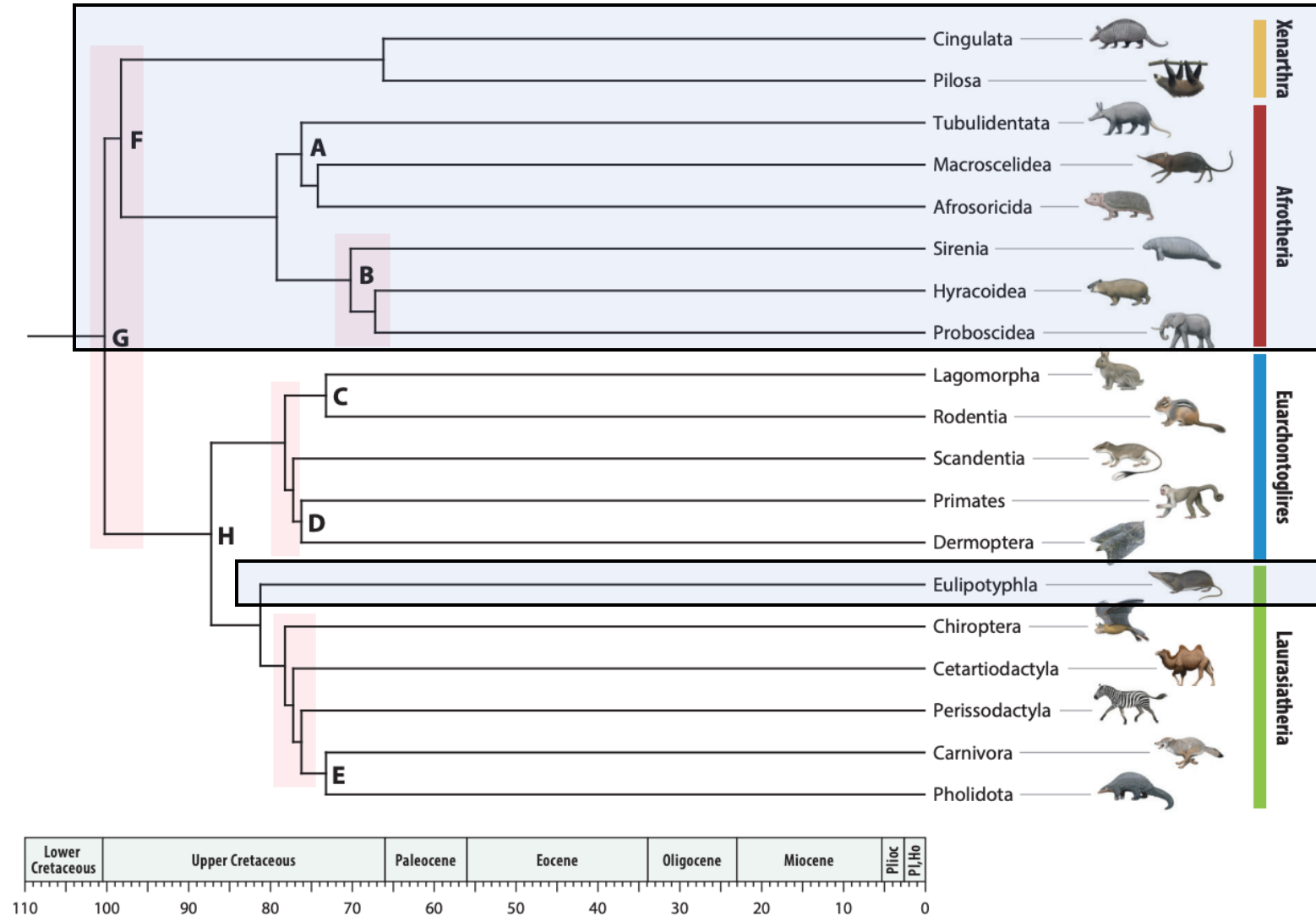
Order Diprotodontia

Family Vombatidae

- Lab Specimen: *Vombatus* (Wombats)
- Robust skull, nasal (bone) extends over nares



Placentals (Eutheria)



Placentals (Eutheria)

Order Xenarthra

Family *Myrmecophagidae* (Ant-eaters)

- Lab Specimen: *Tamandua* (Lesser Ant-eater)
- Lab Specimen: *Myrmecophaga* (Giant Ant-eater)
- Characteristics: teeth absent; skull elongate



Placentals (Eutheria)

Order Xenarthra

Family *Megalonychidae* (Sloths)

- Lab Specimen: *Choloepus* (Two-toed sloth)
- Characteristics: zygomatic arch incomplete. This specimen has some interesting teeth!



Placentals (Eutheria)

Order Xenarthra

Family **Dasypodidae** (Armadillos)

- Lab Specimen: ***Dasypus*** (*Long-nosed armadillo*)
- Characteristics: major part of skin ossified, no teeth on premaxilla



Placentals (Eutheria)

Order Insectivora

Family **Talpidae** (Moles)

- Lab Specimen: ***Scapanus townsendii***
- Big mole-looking thing
- W-Shaped Cheek Teeth



Placentals (Eutheria)

Order Insectivora

Family **Soricidae** (Shrews)

- Lab Specimen: **Sorex palustris** (Water shrew)
 - Web-like fringes on feet
- Lab Specimen: **Sorex merriami** (Merriam's shrew)
 - Shiny coat
- Lab Specimen: **Blarina** (short-tailed shrew)
 - "Big" Skull, short tail
 - Measure using fingers!
- Lab Specimen: Other **Sorex** specimens
- Characteristics: pigmented teeth caused by iron deposits



Eutheria: Afrotheria

Order Proboscidea (Elephants)

1. Family **Elephantidae** (Asiatic and African elephants)
 - Lab Specimen: ***Mammuthus*** (Woolly mammoth) teeth

Order Afrosoricida

1. Family **Tenrecidae** (Tenrecs)
 - Lab Specimen: ***Echinops*** (Lesser hedgehog tenrec)
 - Looks spiky



Link to the quizlet I made

- I'm working on adding photos and cleaning it up a bit
- <https://quizlet.com/555407854/mammology-lab-2-identifications-flash-cards/?i=rccit&x=1jqt>