

## Week 10, Lab 9 (Artiodactyla and Perissodactyla)

### Order Perissodactyla

Family Equidae (asses, horses, and zebras)

- Skull: 1) 6 upper incisors  
2) High-crowned (hypsodont) teeth  
3) Upper canines present in most adults

### Order Artiodactyla

Family Bovidae (hollow-horned ruminants)

- Skull: 1) Frontal appendages (horns) not deciduous, consisting of permanent bony cores and horny sheaths  
2) One lacrimal foramen (excepting *Bison*)

*Bison (Bos) bison* (American bison)

- Skin: 1) Massive head, particularly in males  
2) Head and shoulders darker than rest of pelage, and appear woolly  
3) Short, black horns  
4) Distinct "beard"
- Skull: 1) From dorsal view, frontals and parietals conceal zygomatic arches  
2) Para-occipital crest with a depression  
3) Skull more triangular than *Bos*

*Bos taurus* (domestic cattle)

- Skin: 1) Pelage and horns extremely variable
- Skull: 1) Zygomatic arches visible from dorsal view  
2) Para-occipital crest bulges on either side of center line of cranium  
3) Skull noticeably less triangular than *Bison*

*Oreamnos americanus* (mountain goat)

- Skin: 1) White or cream-colored pelage  
2) Sharp, black horns, slightly curved posteriorly  
3) Short "beard"
- Skull: 1) Bone core nearly round in cross section  
2) Skull narrows little from premaxillae to parietals

*Ovis canadensis* (bighorn sheep)

- Skin: 1) Blunt, dull brown horns, curved posteriorly  
2) Uniform brown coat with white rump patch
- Skull: 1) Bone core ovoid in cross section  
2) Skull narrows conspicuously from parietals to premaxillae  
3) Bone core massive, without a prominent keel on outer edge  
4) Horns blunt at the ends (in males)

## Family Cervidae (deer)

- Skull: 1) Frontal appendages (antlers) deciduous, consisting solely of bone  
2) Two lacrimal foramina

### *Alces alces* (moose)

- Skin: 1) Chocolate-brown pelage, with lighter legs  
2) Antlers palmate (males only)  
3) Dewlap
- Skull: 1) Elongated premaxillae  
2) Frontal region with a deep depression  
3) Vomer does not divide posterior nares (contrast with *Odocoileus* and *Rangifer*)

### *Cervus elaphus* (wapiti or elk)

- Skin: 1) Brown or reddish-brown body with darker neck and legs  
2) Conspicuous cream-colored rump patch  
3) Antlers brown in color, with several branching tines (males only)
- Skull: 1) large upper canines (bugle teeth) usually present  
2) Vomer does not divide posterior nares (contrast with *Odocoileus* and *Rangifer*)  
3) Premaxillae contact nasals (contrast with *Rangifer*)

### *Odocoileus hemionus* (mule deer)

- Skin: 1) Large ears  
2) Bifurcated antlers (males only)—tines from main beam are forked  
3) White rump patch with black or black-tipped tail, depending on subspecies  
4) Dark brown or black patch in center of forehead
- Skull: 1) Vomer divides posterior nares (contrast with *Alces* and *Cervus*)  
2) Deep preorbital pits (contrast with *O. virginianus*)

### *O. virginianus* (white-tailed deer)

- Skin: 1) Smaller ears than *O. hemionus*  
2) Main beams from antlers oriented horizontally, with unforked tines  
3) No white rump patch; undersides of tail are white  
4) No dark patch in center of forehead
- Skull: 1) Vomer divides posterior nares (contrast with *Alces* and *Cervus*)  
2) Shallow preorbital pits (contrast with *O. hemionus*)