Order Perissodactyla

- 3 families, 6 genera, 17 species
- Limbs are unguligrade and mesaxonic
  - Central digit is largest and carried axis of weight
  - Can be more than one digit
- Families:
  - Equidae
  - Tapiridae
  - Rhinocerotidae
Ancestry

- Remnant of much larger and widely distributed group
- Ancestors (Eocene-Oligocene) - small, running forms that showed cursorial locomotion and large, lumbering forms like brontotheres and titanothere
- Indricotherium: related to rhinos, largest ever land mammal (12,000-20,000 kg and 5m height at shoulder)
- Pleistocene: Wooly rhinos and chalicotheres
- Decline of Perissodactyls at same time as rise of artiodactyls (late Oligocene-Miocene)
- Pleistocene extinctions hit hard
Family Equidae horse, asses, zebras; 1 genus, 8 species

- Elongated skull
- Large angular region of dentary
- Cheek teeth hypsodont with complex grinding surfaces
- Dental formula: 3/3 0-1/0 3-4/3 3/3
- Canine, if present, is small
- Postorbital plate separates orbit from temporal fossa
- Single digit on both fore and hind feet
- Body fully haired
- Mane erect in most species but grows long and falls to the side in domestic horses
- Specialized for cursorial locomotion
- Body mass ranges from about 200-400 kg in wild asses and zebras, but some domestic horses can be larger (up to 1,000 kg)
Family Equidae cont.

- Herbivorous
- Social groups- single stallion with several females and their young or small “bachelor” groups of young males
- Defense of groups by stallions
- No true territoriality
- Plains zebras (*E. burchellii*) can form large herds under good ecological conditions
- Lifespan = about 25-35 yrs.
- Females mature at about age 2, leave natal group, join new group and reproduce at about age 5
- Single offspring, gestation about 1 year
- Genus to know: *Equus*
• Indigenous equids only found today in southern and eastern Africa, the Middle East, and arid regions of central Asia
• Domestic introduced to most parts of the world
• Feral populations occur
Family Tapiridae tapirs; 1 genus, 4 species

- Stocky, up to about 30 kg
- Short limbs
- 4 toes front feet, 3 toes hind feet
- Short thick tail
- Teeth brachydont; simple \( \pi \)-shaped pattern of lophs
- Dental formula: \( 3/3 \ 1/1 \ 4/3-4 \ 3/3 \)
- Diastema between canines and premolars
- Reduced nasal bones and short, flexible proboscis
- Body covered with coat of short, sleek hair in 3 species, but coat wooly in mountain tapir (\textit{T. pinchaque})
Tapiridae cont.

- Inhabit forested areas, especially humid forests with soft soil
- Good swimmers, like to wallow in mud
- Herbivorous, feed on understory vegetation plus fruits and aquatic vegetation
- Nocturnal
- Generally solitary
- Reach sexual maturity at 3-4 years age
- Breed year round
- Single young born after gestation of about 13 months
- Young have speckled coats to aid in camouflage
- Genus to know: *Tapirus*
Tapirus pinchaque (Mountain tapir)

- 3 species in Mexico, Central America, and northern South America
- 1 species in Myanmar, Thailand, Malaya, Sumatra
- All 4 species considered threatened or endangered
Family Rhinocerotidae

rhinoceroces; 4 genera, 5 species

- Massive body (1,700 – 3,000 kg) with large, low-hanging head, short legs, short tail with stiff bristles, feet with 3 digits
- Thick skin is scantily haired and heavily wrinkled; Sumatran rhino *Dicerorhinus sumatrensis* has denser coat
- Dental formula: 0-2/0-1 0/0-1 3-4/3-4 3/3; Cheek teeth lophodont
- One or two conical slightly curving “horns” made of agglutinated dermal papillae with no bony core or keratin sheath, not arising from skull bones
- Anterior horn positioned over nasal bones, second horn (if present) positioned over frontal bones
- Nasal bones thickened and enlarged to support horn, roughened texture where horn is supported
- Occipital part of skull high to provide attachment for muscles to support massive head
- Small eyes, poor vision
Rhinocerotidae cont.

- Inhabit brushland, savannas, semidesert, and forest in tropical to subtropical regions
- Need dependable water supply for wallowing as well as drinking
- Herbivorous; eat a variety of plant parts
- Generally solitary
- Lifespan = about 50 years
- Females mature at about age 5 and may give birth every other year to a single offspring
- Gestation period = about 16 months (8 months in smaller Sumatran rhino)
- Males generally do not breed until age 10
- Males may fight fiercely- often with serious injury (imagine getting rammed at speeds up to 40 mph by a charging 2,000 kg beast with a horn!!!!)
- Genus to know: *Diceros* (black rhino)
Dicerorhinus sumatrensis  
• 2 species in central, eastern, and southern Africa  
• 3 species in southern and southeastern Asia from India to Borneo  
• Already extirpated from many parts of their ranges  
• All considered endangered

Diceros bicornis (black rhino)

Ceratotherium simum (white rhino)
**Rhinoceros unicornis** (Indian rhino)

**Dicerorhinus sumatrensis** (Sumatran rhino)

**Rhinoceros sondaicus** (Javan rhino)