Last time...

- What are monkey grade primates?
- When and where do they first appear in the fossil record?
- What features are found in the earliest representatives that identify them as monkeys?

Questions from last class?

- Where do we find primates in the Oligocene?
- Of the Oligocene primates...
  - Who is the potential ancestor of the Catarrhines?
  - Who is the potential ancestor to the NWM?
  - How did the NWM get to South America?
  - Who is the potential ancestor to the OWM?

Taxonomy

- How are monkeys classified?
  - Order? Suborder? Infraorder?
- What are the two groups of monkeys?
  - How do their classifications differ?
  - How do their characteristics differ?
- Of the Simiformes, which two groups are most closely related?

New World Monkeys

- What are the potential evolutionary sources of the New World Monkeys?
- What is their classification?
- What features distinguish them from other primates and in particular from the Old World monkeys?
- What different kinds of monkeys are New World Monkeys?
- How do Callitrichidae differ from the rest of the Ceboidae?
Old World Monkeys

- What are the potential evolutionary sources of the Old World Monkeys?
- What is their classification?
- What features distinguish them from other primates and in particular from the New World monkeys?
- What different kinds of monkeys are Old World Monkeys?
- How do Cercopithecines and Colobinae, the two divisions, differ from one another?

Modern Apes

Living Primates

Figure 5.5 Taxonomy of the Haplorrhines to the Family Level
Ape Grade Characteristics

- No tail
- Y-S Molars
- larger body
- larger brain
- greater social complexity
- shoulder joint adaptations

Miocene 3.5-5 mya

- Ape grade
- Over 30 genera and 100 species of ape - compared with 6 today
- Africa and Eurasia

Miocene continents
Morotopithecus

Dryopithecus

Oreopithecus
Gigantopithecus
Superfamily: Hominoidea

- Gibbons, Gorillas, Orangutan, Chimpanzee, Human
- Greater encephalization, larger body, brachiation, social complexity, lack of tail

Family: Hylobatidae - Gibbons

Hylobatidae Distribution
The Great Apes

- Families: Pongidae and Hominidae
- Who goes in which?

Typical Taxonomy

- Pongidae: Orangutan, Gorilla, Chimp, Bonobo
- Hominidae: Humans
- DOES NOT MATCH UNDERSTANDING OF PHYLOGENY

Modern Taxonomy

- Pongidae = Orangutans
- Hominidae = Gorillas, Chimpanzee, Bonobo, Human
  - Subfamily Gorillinae = gorillas
  - Subfamily Paninae = chimpanzee, bonobo
  - Subfamily Homininae = humans + ancestors
Orangutan

African Ape Distribution

Gorilla

Gorilla
Chimp/Bonobo Tool Use