

Introduction to Biological Anthropology: Notes 13
An introduction to our relatives: Catarrhines

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- Continuing our survey of the Order *primates*
- Suborder: *haplorrhini*
 - Infraorder: simiiformes
 - Two parvorders: *platyrrhini* (platyrrhines, or New World monkeys) and *catarrhini* (catarrhines)
 - Parvorder: *catarrhini* (catarrhines)
 - narrow, downward-facing nostrils
 - our branch
 - only in the Old World (except humans)
 - two premolars on top and bottom, rather than three
 - some have tails, but none are prehensile
 - more variable adaptations than New World monkeys (platyrrhines)
 - two superfamilies: Cercopithecoidea (Old World monkeys) and Hominoidea (apes and humans)
 - Superfamily: Cercopithecoidea
 - Old World monkeys (OWMs)
 - highly variable group
 - arboreal and/or terrestrial
 - many different kinds of social organizations and mating strategies
 - often groups of numerous females and one or several males
 - but basically monkeys, similar in many ways to platyrrhines (NWMs)
 - OWMs and NWMs tend to be arboreal
 - almost all quadrupedal, with variations
 - almost all diurnal
 - generally live in social groups
 - this is a good example of parallel (or maybe convergent) evolution
 - common ancestor split on two isolated land masses
 - similar environments led to similar characteristics evolving from the same starting point
 - Jurmain et al. use the term “homoplasy” for this similarity
 - Two subfamilies: Colobinae and Cercopithecinae
 - Subfamily: Colobinae
 - most arboreal leaf-eaters
 - Africa and Asia
 - langurs: sometimes called "leaf monkeys"
 - colobus monkeys: no thumbs (apparently an adaptation to moving through trees?)
 - "Miss Waldron's Red Colobus": last seen in 1970's, declared extinct in September 2000
 - Subfamily: Cercopithecinae
 - many are semi-terrestrial

- species are quite varied
- Africa, plus macaques also live in Asia
- typically live in large, multi-male, multi-female groups
- baboons
- macaques
- vervet monkeys
- Hominoids
 - our branch: apes and humans
 - which is redundant, since humans are really just another kind of ape
 - generally the largest primates
 - no tails
 - relatively larger brains and more complex behavior
 - Y-5 molars
 - basically forest dwellers, more or less arboreal, flexible tree climbing adaptation
 - arms longer than legs
 - lower back shorter, less flexible
 - wide chest with shoulder blades (scapulae) on the back, rather than on the side as in quadrupeds
 - so the forelimbs can stick out sideways, rather than just moving forward and back
 - greater mobility of shoulders, elbows, wrists
 - these are presumably adaptations for complex climbing in trees, rather than just walking on top of branches
 - traditional classification has three families: hylobatids (lesser apes), pongids (great apes), and hominids (us)
 - we will use the more correct one in which hominids are included among the great apes
 - Family: hylobatids (lesser apes)
 - "lesser apes", generally smaller than the pongids
 - gibbons and siamangs
 - live in tropical forests of Asia
 - nearly full-time brachiators (overhand swingers through the trees) with very long arms
 - mostly monogamous mating
 - long-term pair bonded mates
 - live with a few offspring and no other adults
 - little sexual dimorphism
 - males and females physically similar
 - little difference in size or features
 - hard to tell apart at the zoo!
 - males more involved in infant care than most other primates, especially the siamangs
 - highly territorial
 - Family: hominids (great apes)

- Orangutans, gorillas, chimpanzees, bonobos, and humans
- generally the largest primates
- generally the largest brains relative to body size
- this term is a bit confusing, since many older sources use “hominid” to refer to our species and our ancestors
 - this was technically incorrect for arcane reasons we won’t go into here
 - but the result is that the incorrect use is still probably more common than the correct use shown here
- divided into two subfamilies
- subfamily: pongines
 - includes only orangutans
 - only on southeast Asian islands of Sumatra and Borneo
 - extreme sexual dimorphism in size, face, etc.
 - quadrumanal and arboreal when small, more terrestrial when grown to large size (especially males)
 - very solitary
 - fruit, leaf, and bark eater
 - now commonly divided into two species, one from the large island of Borneo, the other from the large island of Sumatra
- subfamily: hominines
 - the hominines are gorillas, chimps, bonobos, and humans
 - note: hominine ends with an “e”
 - the term for just our species and our ancestors and extinct close relatives is hominin with no “e”
 - what used to be (incorrectly) called hominids
 - we will use “hominin” a lot when we look at the fossil record
 - but it rarely appears on taxonomic charts like the one we are using here, since they usually don’t show extinct species
- gorillas
 - central African forests
 - small groups of one or two adult males, a few females, some young
 - eat leaves, stalks, bamboo
 - mostly terrestrial (although this may vary depending on their environment)
 - now commonly divided into two species, mountain gorillas and lowland gorillas
- chimpanzees
 - and their close relatives, bonobos
 - called "pygmy chimps", even though they are not consistently much smaller
 - mostly eat plants, especially fruit, but sometimes insects and other animals
 - common chimps: large multi-male, multi-female groups centered on a stable group of related males who stay in their natal group
 - bonobos: female-centered groups
 - regularly use tools and modify objects to serve as tools
 - strip twigs to "fish" for termites or ants

- wad up leaves to sponge water out of cavities in tree trunks
 - crack nuts using a stone in one hand and a larger stone or root as an anvil
- Hominins (no “e”): humans and our immediate ancestors and extinct relatives
 - hominins (often incorrectly called hominids) were traditionally placed in their own family
 - as if our lineage had long been separate from the other apes (then called pongids)
 - this was basically vanity
 - the evidence suggests instead that we are just another kind of great ape
 - probably more closely related to chimps than gorillas are
 - much more detail later, but for now:
 - habitual, specialized bipedal locomotion
 - reduced canines
 - huge brains for body size
- Many non-human primates are in danger of extinction
 - capture for sale for pets or research (now partially controlled)
 - hunting for exotic meat or trophies for sale
 - hunted for "bush meat": in some areas, wild animals are not owned by anyone nor effectively protected, so they are a source of cheap meat or minor income for desperate people who can't afford beef, pork, or other preferred species
 - humans are driving our only close relatives to extinction for the equivalent of cheap horsemeat
 - but ultimately, the biggest reason is the reduction of habitat by logging, farming, ranching
 - there are fewer and fewer "wild" places where they can live
- We will come back to many of these primates as examples or case studies