

Unit 3: Human Place in the World, Classification, the Order Primates, Primate Behavior, and Primate Models

Reading:

Larsen, Chapters 6-7; pp. 138-142, 180-183 (Figures 8.7-8.8--overview of change in life on earth), and review pp. 26-28

Goodall, Chapters 1-10, 15-20

Learning Objectives:

You will learn to identify the different types of primates, including where they live and the physical traits that distinguish each grouping. Though they are not listed here, you should also refer to the handout of the "Order Primates." The names there are important to learn (and there will be a quiz on them!) Primate behavior will be presented and you should know primate behavioral characteristics. Be sure to watch the video clips associated with lecture...they can help you recall the primate types and features, and work well as examples for exam essays.

Terminology:

Macroevolution	timeline of macroevolution	continental drift (tectonic)
taxonomy	Carolus Linnaeus	genus
species	punctuated equilibrium	gradualism
Gould and Eldredge		
Time Periods		
Cenozoic	Paleocene	Eocene
Oligocene	Miocene	Pliocene
Pleistocene	continental drift	Pangaea
Order Primates		
generalized traits (vs. specialized)	primitive (ancestral) traits	derived traits
classification vs. phylogeny	opposable	power vs. precision grip
olfaction	binocular/stereoscopic vision	slow climbing
semibrachiation (prehensile tail)	brachiation	fist-walking
quadrupedalism (terrestrial and arboreal)	knuckle-walking	quadrumanal climbing
vertical clinging and leaping	bipedalism	post-orbital bar vs. plate
dental comb	rhinarium (wet, pebbly nose)	dental formula
grooming claw	honing complex	bilophodont vs. Y-5 molars
estrus	platyrrhine vs. catarrhine nose	cheek pouches
sacculated stomach	ischial callosities	diurnal vs. nocturnal
Primate Behavior		
primatology	socioecology	sociobiology
Jane Goodall	Dian Fossey	Birute Galdickas

dominance hierarchy	grooming	parental investment
threats	tool use	regional behaviors/culture
altruism	kin selection	reproductive strategies
omnivorous	folivorous	frugivorous
insectivorous	primate residence patterns	all male
one-male, one female (monogamous)	one male, multifemale (polygynous)	multimale, multifemale (polygynous)
one-female, multimale (polyandrous)	solitary	displays

**Know the primate classification as presented in class. Also know the informal names of these groups (e.g. hominoid for a member of the Hominoidea).

Study Questions:

1. In lecture I presented five sets of features that are generally shared by all primates. Name these five sets of features, and describe each, giving an example of a primate that shows each trait and how that trait is adaptive.
2. Given that primates as a whole are a generalized group, but small groups within the order have specialized traits, describe two specific examples of primates as either generalized or specialized.
3. Trace the steps of macroevolution as presented in your text, lecture, and video (from the origin of life to the age of the mammals). Using this data, describe specific examples of TWO kinds of natural selection in action.
4. Summarize primate locomotor habits. Give an example of at least one primate that uses each type of locomotion.
5. Compare and contrast the anatomical characteristics of the Anthroidea and Prosimii. What is unique about how prosimians live compared to the rest of us (primates)? What types of lifestyles do they have (diurnal/nocturnal; diet; arboreal/terrestrial, etc.)?
6. What are the differences (anatomical, geographical, behavioral) between cercopithecoids and hominoids (for this, do not include humans—talk about apes only)?
7. Discuss several reasons for studying nonhuman primates in terms of physical anthropology. Why should primates be studied in free-ranging circumstances?
8. Discuss the definition used to describe “culture” in nonhuman primates. How is this different from the human version of culture? Discuss two examples of nonhuman primate cultural behavior. Why is our discovery of these behaviors important to studies of early human evolution?
9. What are the two discoveries Jane Goodall made after her first research season at Gombe that allowed her to get funding to return and continue her research? Why were these important?
10. Who are the bonobos, and how are they similar to and different from common chimpanzees?