

Chapter 5: Primate Evolution: From Early Primates to Hominoids

Primates can be defined as a specialized group of mammals from the Eocene period (55 million years ago). The first question that arises is why? What environmental factors led to the development of primate bodies? This chapter points out the connection between the development of deciduous trees and bushes, the insects that inhabit them and the primate specializations that allows for the exploitation of this environment. Various hypotheses are presented to explain just how primates emerged into tree dwelling (arboreal) cultures.

Following this discussion of how primates came to be is the tracing of the primate evolutionary history. Two groups of primates, the omomyids (trasier-like), and the adapids (lemur-like), appear in the early Eocene. Anthropoids (human looking), monkeys, apes, and humans, have a spotty fossil record. The earliest undisputed remains of this group come from the Early Oligocene, some 34 million years ago, in the Fayum area southwest of Cairo, Egypt. The Fayum area yielding the remains of two major subgroups of anthropoids: Parapithecids (monkeylike) and propliopithecids (apelike). During the Miocene epoch (24 to 5.2 million years ago), apes appeared in large numbers over Europe, Asia, and Africa. These proto-apes took many forms including Proconsul, a twenty million-year-old find, with no tail, quite unlike any modern apes. Late come other primates more and more resemble our early ancestors. Kenyapithecus, Sivapithecus, and Dryopithecus, all may have predated the common ancestor to both apes and humans.

Questions:

- 1) What are the adaptive significance of primate hands and feet?
- 2) What new adaptations and habitats are likely to have led to the evolution of hominoids in the Miocene?
- 3) When did hominoids first begin to become partially bipedal? Why is this important in terms of understanding the emergence of hominoids?
- 4) What are the different kinds of locomotion used by various primates?
- 6) What are the differences between Cartmill's and Susman's theories of primate evolution?
- 7) What physical characteristic differentiate the primates of the early, middle, and late Miocene?

Chapter 4: Primate Evolution: From Early Primates to Hominoids

Questions:

1) What are the adaptive significance of primate hands and feet?

advantageous for grabbing at food. no longer needed to do with teeth. could hold themselves to something with feet while went for insect with hands.

2) What new adaptations and habitats are likely to have led to the evolution of hominoids in the Miocene?

temperatures were warmer.

3) When did hominoids first begin to become partially bipedal? Why is this important in terms of understanding the emergence of hominoids? late miocene/early pliocen. Appeared first in Africa. due to change in environment from tropical forest to savanna.

4) What are the different kinds of locomotion used by various primates?

brachiation
knuckle-walking
bipedalism

5) What is the order of time periods and when do they start/end?
Pleistocene 1.6

Pliocene 5.2
Miocene 24

Oligocene 34

Eocene 55

Plaeocene 65

6) What are the differences between Cartmill's and Susman's theories of primate evolution?

7) What physical characteristic differentiate the primates of the early, middle, and late Miocene?