

TEXT SUPPLEMENT (Ch 8): Baboons

Social organization among savanna baboons

The savanna baboons (*Papio cynocephalus* and related species) live on the open, grassy savannas of Africa. They share a complex form of organization. In the wild, they hardly ever fight. They express dominance largely through gestures such as staring at an opponent, showing their teeth, or slapping the ground. We can study dominance by observing pairwise encounters (between two individuals at a time) and noting which baboon more often gets what it wants. Dominance status generally follows size and fighting strength, although it is rarely contested and outright fighting is rare. The situation becomes more complex in encounters of more than two individuals. One group of males, called the central males, support each other, in effect ‘ganging up’ on any threat to one of their number or to an infant or juvenile member of the group. Because they support one another, these males form the stable core of the group. Individual strength does not ensure membership in this central group, for the individually strongest male (the one who ranks highest in pairwise encounters) is usually not a member of the central group unless the troop is small. This individually strongest male (the ‘scout’) generally travels in the very front of the group, the most vulnerable position in the face of danger. It is the central males, however, who determine the group’s direction of movement. The central males also keep order in the group; their mere arrival breaks up fights. Their superior fighting abilities protect the entire group from external threats such as predators.

The females help hold the group together in other ways. Baboons, like other monkeys, are forever grooming one another—picking burrs and parasites from each other’s fur (Figure 8.12). Any baboon may groom any other, but females generally do the most. As a gesture of friendliness, it is generally reciprocated, with groomer and recipient taking turns. Infants and juveniles are often groomed by their mothers. Females who are not yet mothers themselves often practice at grooming behavior and infant care. This ‘mother-in-training’ behavior, called ‘allomothering’ or ‘aunt behavior,’ is very important in many primate species. Human examples include

holding and feeding other people’s children, playing with children, and, of course, baby-sitting. Through such experiences, young primates of both sexes learn the behavior patterns essential to parenting. Alloparenting benefits young primates by providing them with social experiences, learning experiences, and even substitute parents in the event of the parent’s death or temporary removal.

Females primates go through reproductive cycles when they are not pregnant or nursing. These reproductive cycles are marked, as in most female mammals other than humans, by a conspicuous **estrous period** that coincides with the time of ovulation. The female’s sexual status is advertised to males by swelling and reddening of her genital area, as well as by ‘presenting,’ a behavior in which a female displays her genital area to interested males (see Figure 8.11).

The characteristics of the central males are perpetuated by a form of selection in which they gain access to estrous females at the time when sexual swellings are maximal and ovulation is most likely. Other males ‘take what they can get,’ meaning that their access to estrous females is at times when ovulation is less likely. As a consequence, high-ranking males are likely to leave more offspring than low-ranking ones, and their genes are thus favored by selection.

Sometimes a male and female form a ‘consort pair’ for up to several days. Female savanna baboons also copulate with males frequently and promiscuously without necessarily forming consort pairs; after mating, they often assert their independence by immediately running away from their partner. In this, they differ strikingly from the females of the cliff-dwelling Hamadryas baboons, *Papio hamadryas*, a species in which females are herded into harems.

Observations over time have led to the discovery of turnover and replacement in the social system. When one of the central males dies, the remainder of the central group generally carries on without him. However, when the central group falls below a certain minimum size, the entire group dissolves and a new central group takes over. The new group usually includes the ‘scout’ male (who is replaced by a new scout), and the other males in the new

central group are generally his age-mates. The social cohesiveness of this central group was formed years earlier in a juvenile play group in which dominance relationships and future alliances are formed. There are dominance inter-

actions among female baboons, and high-ranking females generally have high-ranking offspring. Juvenile baboons at play frequently look back to their mothers for back-up, and a higher-ranking mother generally provides more reassurance.