

DEVELOPMENTAL PATTERNS OF SCROTAL COLORATION AMONG FREE-RANGING AFRICAN AND CARIBBEAN VERVET MONKEYS

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Studies focusing on the physiological basis and social meaning of the blue scrotal coloration of vervet monkeys have been largely limited to experimental work among captive animals. Both field observations and captive studies have found conflicting results about the range of scrotal variation within and between individuals. This project examined the range of variation of scrotal color among free-ranging vervet males to determine if there are developmental patterns of coloration and to quantify regional variation. As part of a larger study, wild vervet monkeys were trapped between 2001 and 2010. Males were trapped at sites in five African countries (n=43) and on the island of St. Kitts (n=19). Body weight and testes volume were measured and age was estimated based on dental eruption patterns. Digital photographs were collected and coloration was quantified using Adobe Photoshop CS2 (Gerald et al., 2001). Our results indicate that African vervets exhibit developmental patterns of color. We found a positive relationship between relative testes size and scrotal brightness ($p < .05$) and scrotal saturation ($p < .05$) among African vervets. Across all populations, younger males have a dull, gray-blue coloration present before testicular descent and development. However, adult African vervets were highly variable in color, ranging from green to blue coloration while adult Caribbean vervets exhibited only white or faint blue coloration. We suggest that these differences in coloration are not due to phylogeny but may be the result of genetic or nutritional differences between the populations.

Keywords: sexual selection, coloration, signaling, vervet monkey