

Abstract

Colors and color-perception may play an important role in animal ethology (foraging, intra or inter-species communication). However, trichromatic color vision is quite rare among mammals and occurs only in some primate species. Humans, apes, and most of the Old World primates are trichromats, whereas color vision among New World primate species varies strikingly.

The pigment gene perceiving longer wavelengths (red) have appeared most recently. Moreover, the pigment genes for the perception of red color have appear independently in these two primates lines (Old and New World) (Kainz et al, 1998).

Although the genetic mechanism of trichromacy is quite understood, the question remains, what was the adaptive advantage responsible for the spreading of the above mentioned genes. The basic functions of trichromatic vision may be better detection of food (folivory and frugivory hypothesis), signaling or warning functions.

The main goals of the thesis is to study spontaneous preference for color in children (pre-school and school age) and non-human Old World primates who have routine trichromic vision.

Moreover, the thesis will focus on preference of red color to understand what was an adaptive function of red color perception. We assume that the spontaneous preference for color may reflect an adaptive advantage, leading to a rapid expansion of the red pigment gene. We assume that if the red color would be significantly preferred it can be evidence in favor frugivory function, while significant avoiding red color may indicate aposematic (warning) function.

Key words: preference for colours, Trichromatic vision, Rhesus macaque, children