

TOPIC SUMMARY

The behaviour of foraging food and feeding of *Ceropitichus mitis stuhlmanni*, specifically how they use their cheek pouches to maximize the feeding and foraging was investigated. *C.mitis* are arboreal and diurnal species, have large social groups with one male and multiple females as females stay in their natal groups(social group in which an individual is born) (Pazol & Cords 2005) . They have the ability to consume a diverse range of diet due to their geographic range (wide home ranges) (Takahashi et. al. 2019, Fairgrieve & Muhumuza 2003). Fruit is consumed the most but they have the ability to consume other food sources such as leaves, insects, and flowers (Coleman & Hill 2014). Blue monkeys have a very slow life history as they have slow growth, slower reproductive output, and older age of maturity (Cords & Chowdhury 2010). In the mornings, they spend most of their time foraging and feeding and for the rest of the day, they spend resting and socializing with one another in their groups (Tweheyo & Obua 2001, Cords 2012). Since the diet of *C.mitis* consists of food that are hard to digest quickly (unripe fruit and leaves), they have evolved to have cheek pouches which are specialized to break down the starch and other complex sugars before it enters the stomach to be fully digested (Lambert 2005, Tesfaye et. al. 2013). This specific combination of their diet and their simple stomachs allowed for the adoption of this feeding strategy and explains why it is not seen in all other animals.

The behaviour of interest was scientifically studied by examining the two hypotheses of how cheek pouches were most used. Researchers were interested in determining if cheek pouches were used more to avoid predation or used more to avoid intraspecific competition (Smith et. al. 2008, Lambert 2005) This was done by methods such as determining vulnerability scores when filling and emptying cheek pouches, recording the position of the focal animal from a scale of 1 (the safest) to 16 (most exposed) areas, observing which food items were immediately consumed versus which items were placed in cheek pouch and observing female interactions during foraging and feeding (Smith et. al 2008, Lambert 2005, Pazol & Cords 2005). Researchers found that subjects retreated to a safer position (from predators) after filling their cheek pouch and finished consumption there, female subjects who consumed large quantities of fruit had no effect on their relationships with other females, and cheek pouch use did not vary significantly for any food source (high quality or low quality) (Smith et al 2008, Lambert 2005, Pazol & Cords 2005). This suggests that the main function of the cheek pouch is to avoid predation . This use of cheek pouch may have been adapted because individuals may have noticed that their fellow monkeys that were feeding in areas that were exposed to predators were eaten, thus *C.mitis* adapted the behaviour of securing a food item in their cheek pouch and retreat to a less exposed area to finish the feeding process (Smith et. al. 2008).

Suggestions for future research is determining the role of the nervous system and other neurobiological influences on the behaviour of feeding, foraging and cheek pouch use. Another future research suggestion is discovering why there are the differences between males and females usage of cheek pouch as higher ranking females use cheek pouch more than lower ranking females and the opposite is true for males ? (Pazol & Cords 2005)?

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