

A Report – Infant Abandonment in Bonnet Macaque (*Macaca radiata*)

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Abstract: Prevalence of infant abuse, abandonment and neglect are not uncommon in primates. However, most of such cases come from the human population. The prevalence of infant abandonment is also reported in some species of macaque though it has been claimed to be more prevalent than the reported. However, such behavior has not been reported in bonnet macaque. Here, the researcher reports an instance of infant abandonment in bonnet macaque.

In primates, the relationship between mother and infant rarely ends at weaning. Primate mothers continue to support their infant throughout mother's life span [2]. Juvenile primates continue to share 'umbrella' care with the siblings. However, despite such intense and lifelong care provided by most of the primates, evidence of a mother abandoning infants are present [4-8]. Likewise, adoption of abandoned infant is also reported in some studies [1]. Many species of primate have been reported to abuse, neglect, or abandon their infants. For instance, Schino and Troisi, (2005) reported mother abandoning neonates in Japanese macaques (*Macaca fuscata*). Likewise, Maestriperi and Carroll, (2000) have reported infant abuse, neglect and abandoning in rhesus macaques (*Macaca mulatta*), pigtail macaques (*Macaca nemestrina*), and sooty mangabeys (*Cercocebus atys*). The prevalence of abandoning, abuse, and neglect are also abundant in human (Farrell, 2016; Scrimshaw, 1984). However, such a phenomenon has not been reported in bonnet macaque of South India. Here, the researchers report the abandoning of infants by the mother in a group of bonnet macaques (*Macaca radiata*) inhabiting roadsides of Utarahalli Village, Mysore, Karnataka (12°14'53.22"N; 76°40'51.95" E). The group was followed and studied from November 2011 to April 2013. The area inhabited a group of 62 bonnet macaques at the beginning of the study, and it consisted of six adult males, seventeen adult females, ten sub-adult males, fifteen juvenile females, and fourteen juvenile males. With the birth of 15 infants in the first breeding season, the group reached the group size of 77. Out of these 15 infants, two infants died leaving 13 mother-infant pairs.

In the present study, the group witnessed a group split. The original study group got divided into three

groups. In this process of group split, out of 17 females' nine females left the original group and joined the 2nd and 3rd group. All the females who left the group were omega females, and some of them were middle ranked females. The 2nd group was taken over by a sub-adult male from the original group and two adult males joined this group. Seven females joined the second group. Out of these seven females only one female was the middle ranked female in the original group. This particular female acceded to the group after group split and became the 1st ranked or dominant female in the group. The third group was also taken over by a sub-adult male from the original group. Only two females joined this group, and the three members left the place. Hereafter, the 3rd group was not seen again. The group split happened, and the groups occupied different geographical location in the month of October-November 2012. The birth of infants happened from the end of January to April end. The two middle ranked females, who joined second and the third group left their infants in the original group and joined the new groups formed. The one who joined the 2nd group became the dominant female. Her infant was eight months old when she left the infant in the original group. However, sudden fall in zero body contact can be seen at four months itself, which indicates weaning (Figure 1a). Except for this particular female all other females took their infants with them in the second group. Out of the two females, who joined the third group, one female's infant had died in the first month itself after birth, whereas the second female left the immature in the original group (Figure 1b). Other group members took care of these abandoned infants. These ad libitum observations were collected during the field work. To substantiate above observation, investigator analyzed the data gathered using scan sampling at every half an hour and analyzed at 30 days interval. Total 7,777 scans were taken for the duration of one year on proximity between mother and infant. The proximity was divided into (i) zero body contact (mothers carrying infants or infants playing over mother), (ii) 1-5 meter distance (when the infant was at a distance of 1 to 5 m from the mother), and (iii) M5 meter (when the infant was at a distance more than 5 meter). To substantiate these observation data on the two abandoned infant was analyzed. It can be inferred from the figure 1 that infant abandoned by

the female who joined 2nd group weaned her infant between 4-5 month since after that the zero body contact has fallen. It left the infant in the month of 7.5-8. It can be seen in figure 1 as the total elimination of zero body contact and increase in more than five meters distance between mother and infant.

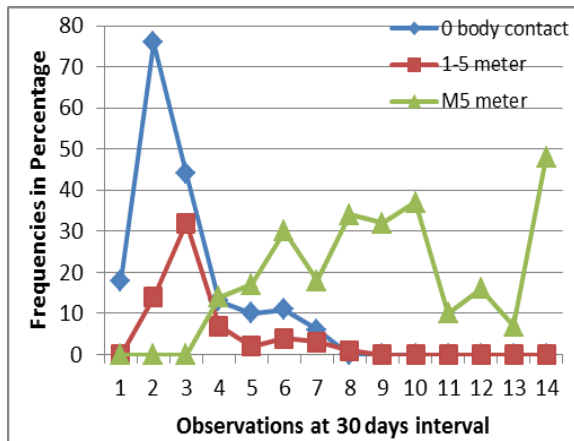


Figure 1. Percent of distance between mother - infant of the female who abandoned infant and joined the 2nd group

Likewise, infant abandoned by the female who joined the 3rd group also started weaning her infant at 5-6 months and abandoned her infant at around eight months of age (Figure 2).

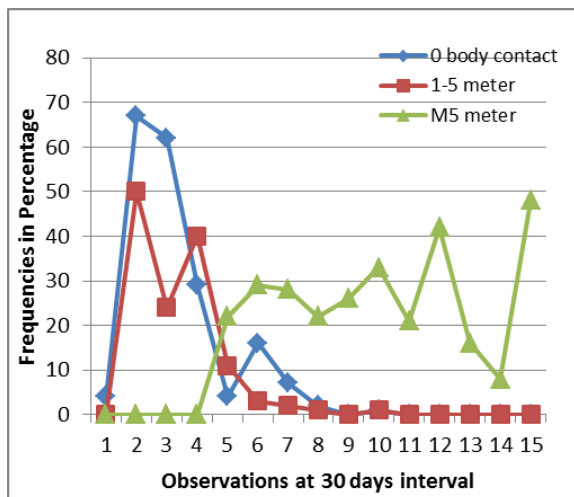


Figure 2. Percent of distance between mother - infant of the female who abandoned infant and joined the 3rd group.

Literature has reported incidences of infant abuse, neglect and abandoning in other species of non-human primates. However, the explained causes of such abandonment are different for different species. Schino and Troisi, (2005) attributed abandonment of neonates to social stress and reduced probability of infant survival. They reported such abandonment majorly by primiparous females, which often abandon the infants immediately after birth. Maestripieri and Carroll, (2000) explained

abandonment as genetically determined and reported the prevalence of abandonment to be matrilineal. However, they also accepted that the reason for the prevalence of abandonment behavior is still not clear. In the present group, the primiparous females did not abandon infants. Both the females were middle aged females as estimated from their nipple size. The abandonment followed group split and provided a distinct advantage to the mothers abandoning infants.

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2. References

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