ABSTRACT

Triverse and Willard (1973) proposed that parental conditions affect the sex ratio of their offspring at the time of birth. Studies related to sex ratio have yield contradictory results (Brown & Silk, 2002). Most of them were restricted to either sex ratio at the time of birth or quality of milk fed was the indices of PI. However, in a study by Singh et al. (2008) on lion-tailed macaque (*Macaca silenus*), a different perspective to measure PI was taken. The study took after birth investment to study PI patterns in LTMs. The LTMs are non-seasonal breeder, whereas the bonnet macaque are seasonal breeder and females reproduce almost every year (Brown, 2008; Krishna et al., 2008; Kumar, 1987; Kumar & Kurup, 1985; Sharma, 2002; Singh & Rao, 2004). Since female primates continue to invest a considerable amount of time and energy in their infant even after birth. Hence, the study of the PI after birth can provide a good insight on the topic. Therefore, the researcher explores the patterns of PI in species that is a strictly seasonal breeder, which differs considerably from lion-tailed macaque, which is a non-seasonal breeder.

A group of bonnet macaques inhabiting roadside of Utaranhalli, Mysore, Karnataka was selected for study. All animals of the group were individually recognized by body size, facial marks, and other diagnostic characters. Behavioural data was collected through 10 min “Focal animal sampling” (Altmann, 1974). Opportunistic and *ad libitum* data was gathered on all agonistic interactions (only dyadic) among group members with their individual identities, and these data were used for determining the dominance status of each animal. Dominance hierarchies were determined using the standardized method of Singh et al. (2003).
The researcher found that in maternal investment, the sex ratio at the time of birth did not vary significantly. However, high-rank females invested differentially in male and female sex on the parameters of direct investment such as nipple contact and did not show any differential investment pattern on indirect measures such as grooming and body contact. In paternal investment, it was found that the adult males do invest in infant. However, adult males differ a lot on the patterns of investment according to their rank and sex of the infant and even on the rank of females. The alpha males showed bias towards the infants of high-rank female but did not show any differential investment concerning sex of the infants. Second and third rank males showed bias with respect to sex of the infant. Omega male did not show any specific pattern of investment; rather, it spent significant time in the proximity of low-rank females.