



ORIGINAL ARTICLE

Studies on Moving and Motionless Behaviour in Monkeys at Rural Area Malpura Village of Agra, Uttar Pradesh

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ABSTRACT

Behaviour is an interesting topic for common peoples as well as for scientists and researchers. For observing wide variety of behavior in primates, monkeys are best suitable model for any researcher. Monkeys show moving and motionless behavior in wide range like feeding, jumping, scratching, and reproductive behavior. Further, there is a scope to find out specific behavior in adult males at rural areas as rural and urban habitat may affect natural behavior. Keeping these points in view, the present study was designed to study some specific behavior at rural area Malpura village of Agra.

Key words: Moving and Motionless Behaviour, Malpura Village, *Macaca mulatta*

INTRODUCTION

Behavior in monkeys is always a topic of interest for researchers. They show a variety of moving and motionless behavior. They walking the ventral side of their paws rest on the ground but in climbing or clinging they use their forelimb first and the object strongly and swing to reach other places. They are expertly walk on rope and wire. Macaques are active walkers and may walk quiet a distance in search of food. During locomotion the monkeys walk or run without jumping on the ground. In alt their movements from on place to another they are led by the adult dominant male of the group. Rhesus monkey have ample protection from the wind in the buildings and trees in their habitat, thus the locomotory behaviour of the rhesus monkeys is fairly predictable in all seasons. The frequency of grooming varied among various categories of monkeys. In this process either left or right or both the hands were used in autogrooming and allogrooming, The parts of body, which were often groomed were the head, chest, thighs, arms, abdomen and tail and rarely other parts. Grooming pattern was effected by change in weather. The motionless and other activities like reproductive behavior and grooming activities of the animal included standing, sitting and lying down for rest and much more. Rhesus monkey usually rest on some protected solid objects in shady places on their hind limbs and pelvis, they close their eyes and take a short nap. While on the trees they hang their hind limbs on both the sides of the branch they are lying on and hold it with their fore paws, while sleeping.

MATERIAL AND METHOD

The present investigation was carried out at rural area of Agra Malpura to observe the moving and motionless behavior in adult males of rhesus monkeys.

Focal Sampling: Focal sampling involves the observation of behaviour of a single animal for a specified amount of time. All instances of the animal's behaviour and its interaction with other animals in a group are recorded. During observation period the individual may get partially obscured or may go out of sight. In such a case, recording is stopped until it is visible again. Using this technique, the animal is observed from atleast of two hours to a maximum of twelve hours a day. Each observation hour is divided into four equal parts of fifteen minutes sample period. Each sample period has a sample time of ten minutes followed by a sample interval of five minutes.

Study Site: *Macaca mulatta* is primarily arboreal but also live on the rooftops and secluded places of the buildings from where they can easily escape the danger. For the present study in the rural area the selected study site is Malpura village for the study purpose. The study was chosen

because of the following factors (1) Sizeable population of *Macaca mulatta* reside in the urban and rural region of Agra District without any definite programme to maintain their number. (2) These regions have a variety flora fauna and artificially supplied food by the local population. Thus conditions are suitable for the study of these macaques.

RESULTS AND DISCUSSION

Table 1: Time activity budget in different age group of *Macaca mulatta* (in minutes) at Malpura rural area, Agra

Animal	Feeding Behaviour	Movement	Motionless Behaviour	Reproductive Behaviour	Grooming	Others
Adult male	4773.12	4692.48	6278.40	1098.24	4577.28	1620.48
Sub-adult male	5072.64	5387.52	5310.72	1263.36	3978.24	2027.52
Adult female	5318.40	4369.92	5971.20	948.48	4830.72	1601.28
Sub-adult female	5591.04	3820.80	4796.16	1704.96	3605.76	3521.28
Juvenile	3379.20	3889.52	4089.60	783.36	2952.96	7944.96
Infant	2511.36	2968.32	3160.32	549.12	2392.32	11458.56

Table 2: Time activity budget in different age group of *Macaca mulatta* (in %) at Malpura rural area, Agra

Animal	Feeding Behaviour	Movement	Motionless Behaviour	Reproductive Behaviour	Grooming	Others
Adult male	20.71	20.36	27.25	4.76	19.86	7.03
Sub-adult male	22.01	23.38	23.05	5.48	12.26	8.80
Adult female	23.08	18.96	25.91	4.11	20.96	6.95
Sub-adult female	24.26	16.58	20.81	7.40	15.65	15.28
Juvenile	14.66	16.88	17.75	3.50	12.81	34.48
Infant	10.90	12.88	13.71	2.38	10.38	49.73

Table 3: Total time activity budget of all six animals *Macaca mulatta* at Malpura rural area, Agra

Activity behaviours of all six animals	Time	Percentage
Feeding behavior	26645.76	19.27
Movement	25118.56	18.17
Motionless behavior	29606.40	21.41
Reproductive behavior	6347.52	4.59
Grooming	22337.28	16.15
Others	28174.08	20.38

In winter and cloudy day they were observed locomoting for pleasure, covering 1 km in over an hour at an speed of about 100 min and moving the extremes of their territory; bouts of grooming, feeding and relaxation were also observed in between the movement. Monkeys moved less on hot summer days, locomotion in summers occur only during the morning and evening, that too for specific purposes of food and water acquisition while in afternoons they rest in cool, shady places. Alteration in behaviour was more than the non-reproductive sexual behavior, observed that in rhesus monkey reproduction takes place throughout the year with more mating from mid October to the middle of December. During the courtship adult male approaches the adult female and stimulates her by carassing her with fore paws, receptive female acknowledges by standing up on all fours, adult male than mounts her and copulates, sexual climax ends with male ejaculating. Adult males some times masturbate also on one occasion an adult male at Malpura village was observed eating own semen, probably due to its protein rich nature. Sexual behaviour was observed throughout the year, besides adult males the male Juveniles and infants were also found to be engaged in social mounting, pseudocopulation, masturbation and homosexual activities sometimes. During winters, grooming was observed only after monkeys had fed and the sun sufficiently high to provide enough warmth for them to bask and groom. In the summer season,

grooming was seen even when monkeys were on the move. Monkeys spent enough time for grooming but they did not give priority for grooming over feeding. Adult male was mainly groomed by different adult females at different time, autogrooming was also observed frequently in adult male. Sometimes adult male was noticed to groom juveniles and infants which is a sign of parental care.

Malik (1986a) conducted a study on increased home range of self sustaining free ranging rhesus population in Tuqulabad in India, he observed that this area provides a wide range of two types of food:-Primarily, that provided by humans and secondly, natural food, monkeys spent 9% or 10% of their time during winters and summers respectively on the food given by humans, it was consistent. Feeding slightly increased during summers because days are larger and people have few more day light hour to feed the monkeys. The variation in natural food comes in the months (1) when the crop have been sown and trees bear fruits, and (2) when the crops have been harvested and the trees bear no fruits (May and Nov.) respectively. He concluded that natural feeding occurs mainly when the artificial feeding by humans is less and when natural food is low in availability then monkey spent more time in foraging. Thus dieting Pattern varied in different seasons of the year. The peak feeding time reported by Malik (1986a) was in the morning when animals were either fed by the humans or waited to be fed, If not fed then they resorted to natural vegetation. The other period of equally intense feeding was in the evening. In the present study it was seen that monkeys fed in the morning and evening hours. In summers the feeding schedule was between 6-7 am in the morning and 5-7 pm in the evening. While in winters animals fed between 9-10 am in morning and around 3-4 pm in late afternoon, this feeding pattern is same as reported by Malik (1986a) In the orchards which occurred in rural area: monkeys usually fed on the leaves and fruits of Mango (*mangifera*), Bel (*Aegle marmelos*), Amrood (*Psidium guava*), Anar (*Pumia granatum*). In the village fields they were also found feeding on crops, where they fed whole plants such as Sarso (*Brassica campestris*), Bathua (*Chenopodium album*), Tomoto (*Lycopersicum esculentum*), Bringil (*Solanum melongena*) etc. They also feed on the buds and flowers of Kanner (*Flacourtia ramontchi*), Gurhal (*Hibscus rosa sinansis*) sinancis. They were also observed to feed on the tap roots like Mooli (*Raphannus sativas*), and Carrot (*Daucus carota*) Potato (*Solanum tuberosum*) and tubers of in rural habitat. They also fed on grasses in both urban and rural areas occasionally. It was also observed that monkey were very selfish at the time of feeding, they never shared any food with each other, even mothers sometime snatch the food from juveniles. Selfishness was Seen in all the age group animals while young infants were mainly dependent on breast feeding.

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