Asian Journal of Agriculture & Life Sciences Vol. 3(2), April 2018: 49-51

Website: www.crsdindia.com/ajals.html e-ISSN: 2455-6149

ORIGINAL ARTICLE

Analysis of Behavioural Aspects and Time Activity Budget of Rhesus Monkey, *Macaca mulatta* in Urban Area of Agra

Rakesh Babu and Ajay Capoor
Department of Zoology, Agra College, Agra
Email: drrakeshchaudharyaca@gmail.com

Received: 4th Dec. 2017, Revised: 10th Feb. 2018, Accepted: 16th Feb. 2018

ABSTRACT

Rhesus monkeys Macaca mulatta show alteration in behavior with rural and urban habitat respectively alongwith age and sex wise. Males are more aggressive to other funny activities whiles females are for moving and searching for food. Time activity budget who a summarized view of activities. In the present study, a light is thrown on common behavioural activities in monkeys at urban area Raja ki mandi railway station, Agra.

Key words: *Macaca mulatta, Behavioural Aspects, Macaca mulatta*

INTRODUCTION

Monkeys are always funny and naughty. They are in search of food and fun always. Adults, mid aged and babies make every time moving and motionless activities. The rhesus monkeys is omnivorous and feed on variety of food. They are also artificially fed on bread, vegetables, fruits, nuts, gram and even egg and non vegetarian eatables by human population. Naturally they mainly eat leaves, flowers, buds, fruits, vegetables and bark of neem (*Azadirachta indica*) and jamun (*Syzygium cumin*), also leaves of pipal (*Ficus religiosa*), shisham (*Dalbergia latifolia*), Bargad, (*Ficus benghalensis*). etc. in feeding monkeys are very selfish. They eat by themselves and never share alongwith each other so much so that even mothers sometimes snach the eatables from the young ones. While feeding they pick up things and stuff them in the mouth which seems to be stored in the gular pouch in the neck region for a while. *Macaca mulatta* is partially arboreal, it has strong pectoral and pelvic muscles ad shows quadrapedal locomotion. Indian primates are rare, almost no efforts have been made to devise or evaluate conservation strategies for these species from the perspective of the species behavioural profiles or individual behavioural decisions. The macaques (genus Macaca) with 19 species distributed mainly across a range of ecological habitats in Asia, represent the most socially diverse of all the cercopithecine primates. Keeping these points in view, the present study was undertaken to summarize time activity budget holding common activities in urban area of Agra city at Raja ki mandi railway station.

MATERIAL AND METHOD

The present investigation was carried out at urban area of Agra Raja ki Mandi Railway station which is crowded with monkeys 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 Raja ki Mandi Railway station (urban area) for the study purpose. The study was choosen 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 Raja ki Mandi Railway Station, Agra

Animal	Feeding Behaviour	Movement	Motionless Behaviour	Reproductive Behaviour	Grooming	Others
Adult male	4588.80	4542.72	5541.12	817.92	4270.08	3279.36
Sub-adult male	5041.92	5049.60	4619.52	1201.92	3939.84	3191.04
Adult female	5592.72	4627.20	5909.76	975.36	4776.96	1248.00
Sub-adult female	5591.04	3985.92	4331.52	1543.68	3705.60	3882.24
Juvenile	3536.64	4619.52	3705.60	806.68	2334.72	8037.12
Infant	2319.36	3390.72	2722.56	698.88	1931.52	11976.96

Table 2: Time activity budget in different age group of *Macaca mulatta* (in %) at Raja ki Mandi Railway Station, Agra

Animal	Feeding Behaviour	Movement	Motionless Behaviour	Reproductive Behaviour	Grooming	Others
Adult male	19.90	24.05	19.71	3.55	18.53	14.23
Sub-adult male	21.88	20.05	21.91	5.21	17.10	13.85
Adult female	23.88	25.65	20.08	4.23	20.73	5.41
Sub-adult female	24.26	18.80	17.30	6.70	16.08	16.85
Juvenile	15.35	16.08	20.05	3.50	10.13	34.88
Infant	10.06	11.81	14.71	3.03	8.38	51.98

Table 3: Total time activity budget of all six animals *Macaca mulatta* at Raja ki Mandi Railway Station, Agra

Activity behaviours of all six animals	Time	Percentage
Feeding behavior	26580.48	19.22
Movement	26215.68	18.96
Motionless behavior	26830.08	19.40
Reproductive behavior	6044.16	4.37
Grooming	22958.72	16.60
Others	31614.72	22.86

Selfish feeding is observed in them also. They only sulk the infants but do not share food with them. Sometimes juvenile snatch away food from them but normally the condition is opposite. They move around with the troop keeping some distance from the adult male. Some of them also carry their infants clinging either to their bossom or on their backs. They even jump from branch to branch on the trees or on the buildings while carrying the infants. The time devoted by adult female in motile activities was recorded (Table 1-3). The main reproductive activity of adult female was restricted to courting and being chased by males of the troop-Adult female was frequently chased by adult male during peak mating season for copulation. The time devoted by adult female in reproductive behaviour was noted. Least time was spent in these activities as compared to other behaviours by adult female. It was observed that the time spent by adult female in other activities.

Rhesus monkey have enough protection from the wind in the trees and cool interior of fort and tomb was reported by Malik (1986), while conducting the present study on *Macaca mulatta* in urban and rural habitat similar behaviour was observed to avoid strong winds, they retreated into the trees or the protection provided by the buildings. Similar finding were also reported by Southwick (1985), Pirta (1984) and Neville (1968a). Running, playing and swinging on the branches of tree by juveniles and infants was commonly observed in the present study, similar

playful activities like running, coping, chasing, dumping, leaping, swinging and wrestling amongst the juvenile and infants being the most time consuming activity was reported in langur by Dolhinow (1978) while Lindburg (1971) reported that adult males and females also join the younger individuals in the play some times, similar observations have been made in both urban and rural habitats in the present study.

Different types of grooming behaviours were observed viz. autogrooming an allogrooming. Autogrooming is done by the monkey itself while anallogrooming monkeys groom the other troop members; Teas (1978) also reported both autogrooming and allogrooming in the rhesus monkey population at Kathmandu. In the process of grooming either left or right or both the hands were used. The parts of body which were often groomed included head, chest, thighs, arms, abdomen, ta and rarely other parts of the body. Autogrooming was observed more frequently in males whereas allogrooming was more commonly don by the females. During the study it was observed that climate is an important factor in the regulation of grooming pattern. During winter grooming was comparatively less because monkeys groom only after feeding and when the sun is sufficiently high to provide enough warmth for them to bask and groom while in the summer season grooming was recorded even when monkeys were walking. It was also observed that monkeys devoted sufficient time for grooming but it was comparatively less than the time devoted for feeding dynamic and static behaviour. Grooming was noticed throughout the observation time until the monkeys slept in all the seasons. The maximum grooming was observed in the afternoon.

REFERENCES

1. Dolhinow P.J. (1978): A behavior repertoire for the Indian langur monkey PResbytis entellus. Primates, 19: 449-472.
2. Lndberg D.G. (1971): The rhesus monkeys in north India an ecological and behavioural study. In LA Rosenblum (ed.). Primate behavour, development in field and laboratory research, New York, Acad. Press, 1-106.
3. Malik I. (1986): Primate ecology and conservation time budgets and activity pattern of free ranging rhesus monkeys of north India, Cambridge University press, 3: 105-114.
4. Neville M.K. (1968): Behaviour of rhesus monkey in a town of Noth India. Amar. J. Phys. Anthrop., 29: 3.
5. Pirta R.S. (1984): Maintenance of co-operative life in forest and urban rhesus monkeys (*Macaca mulatta*). Proceedings of the Indian Academy of Sciences (Animal Science), 93: 83-89.
6. Southwick C.H., Beg M.A. and Siddiqui M.R. (1985): Rhesus monkeys in India. In I. Dvora (Ed.). Primate behavior. Field studies of monkeys and apes. New York, Holt, Kinchart and Winston, 119-159.
7. Teas J. (1978): Behavioural ecology of rhesus monkeys (*Macaca mulatta*) in Kathmandu, Nepal. Ph.D. thesis, Baltimore, M. Johns Hopkins University.