

4. GENERAL METHODS FOR OBSERVATION

4.1. INTRODUCTION :

The basic mechanism of studying animal behaviour in the wild is to wait patiently at a suitable site where animals are likely to be observed most without disturbing them in any way. Observation and experiment are the two main techniques for behavioural study. The observer gathers data on basic facts which can be tested by experiments and therefore their combined efforts may result in more accurate facts and theories (Scott, 1958). The most important theme of behavioural study, however, is possibly to collect data systematically and accurately. Accuracy of recording data in the field can be increased by using tape recorder, binocular, still and movie camera, stopwatch, measuring tape and other suitable instruments. The use of movie camera, however, is restricted by observability and financial condition. It is also required to analyse the observed behavioural data with respect to time of the day, season, temperature, rainfall, humidity and other environmental factors, besides biotic factors such as proximity of parents or other altruistic conspecifics, predators, or a dominant animal or sexually receptive member of opposite sex. So, records of these patterns are also important in behavioural study. The equipment used in this study are described in this section.

In connection with recording behaviour systematically two basic methods namely 'focal animal sampling' and 'point sampling' (Altmann, 1974,1980), over some unit-time, were used. The details of these methods are discussed in specific sections.

4.2. SELECTION OF STUDY AREA :

A major part of the forests of West Bengal is situated in the two northern districts, i.e., Jalpaiguri and Darjeeling. There are four forest divisions in the Jalpaiguri District, i.e., Baikunthapur Division, Jalpaiguri Division, Cooch Behar Division and Buxa Division. More over there are 6 wildlife sanctuaries and 1 National parks in the Darjeeling

and Jalpaiguri districts. Although rhesus are abundant in all the areas, Baikunthapur was selected for investigation and survey because of their higher abundance, better observability, superior communication system and variation in forest types.

This division is large in size and non-homogenous in nature. Therefore, observability and concentration of animals at different parts of the division were different. All the 17 blocks totalling to an area of about 17 square Kilometres of the Division was selected for population survey of rhesus. There were good reasons behind my selection of 17 blocks for population surveys as important study sites : (i) rhesus groups were available in all parts of the division and (ii) the scope of survey was excellent as the animals more or less distributed in trees and on the ground. These study sites were not far away from corresponding beat offices. Among 17 blocks, behavioural studies were performed at Laltong -2, Dabgram-4, Sarasawatipur-2b, 4, Simulguri and Phuljhora-4. Observations, however, were not restricted to these blocks alone but were spread over to other blocks of adjacent divisions, such as upper Tandu and lower Tandu of Jalpaiguri Division, Rajabhatkawa and Jyanti of Buxa Division.

4.3. STUDY PERIOD :

A total of 34 months (January, 1987 to August, 1988 ; October, 1988 to December, 1988 and January, 1989 to November, 1989) were spent by the author at Baikunthapur Forest Division. Observations, however, were broken for periods of 4 to 7 days at a stretch in each month for discussion at the centre and other relevant works. The official records maintained by the forest department were used for periods of absence of the author.

4.4. DAILY OBSERVATION SCHEDULE :

Forest rest-house, such as Chutikiavita Beat (Plate-4.1), Laltong Beat and Sarasawatipur Beat situated inside the forest from where feeding sites could be reached quickly, were used as residential quarters over the period of study at Baikunthapur Forest Division

(Plate 4.1). Daily routine observations were divided into three phases such as : morning (06.0 hour to 09.0 hour), noon (11.0 hour to 13.0 hour) and afternoon (14.0 hour to 18.0 hour) . Actually the hour as scheduled above could not be followed properly. The deviation from the scheduled observation hours were, however, never more than 30 minutes. In general , observations were made throughout the day covering all the three periods. Often observations were started ahead of the schedule and also extended beyond it. No attempts were made for nocturnal observation.

4.5. MODE OF OBSERVATION :

Detailed observation were mostly done at specific activity sites during activity or after the departure of the animals and by direct observation on various plant species and on the ground. The monkeys were followed from a safe-distance whenever they descended from the trees at the study site, or when they could be observed in action either inside or outside the forest. The watch towers and roofs of the guest houses were suitable places from where wide areas of the forest could be seen easily. Observations were made following a period of familiarization. Observation distance varied from 2 metre to above 75 metres. The process of familiarization helped in data collection effectively.

Walking and by-cycling through the firelines and forest roads both inside and outside the forest was found to be a convenient means to survey rhesus. Elephants provide the simplest and safest transport in the forest. But this system is not applicable in this division because of their non-availability. The bicycle was used inside the study area while a scooter (Narmada Prince-150, WMX - 2711) was used (plate - 4.2) to carry observers to the beat offices at a distance from the study sites, so as to avoid disturbing the animals by the sound produced by the scooter.

4.6. EQUIPMENT USED :

The animals were observed with naked eyes or through Japanese binoculars (7 x 35,

Xenith). Photographs were taken by an Agfa - 200 and a National - 35 (1 : 2 : 8 lense). A small portable tape recorder (Phillips, India) was used. A stop - watch (Rocar, Swiss made) was used to record time. A 30 metre cloth tape was used for measuring distance. Meteorological records were taken with the help of maximum and minimum thermometer, Rain-gauge and dry bulb-wetbulb thermometer. Meteorological data was taken from the Baikunthapur Forest Office, Siliguri.

4.7. METHODS OF RECORDING BEHAVIOUR :

Observations were mostly recorded in the tally - sheets prepared separately for different behavioural patterns. In situations where previously made tally - sheets were not applicable on some specific situations, recordings were done in the magnetic tape-recorder which were further analysed in details and the tally sheets were changed accordingly. Descriptive observations were recorded at once in the tape recorder or in the field note book immediately after the event. A combination of these three devices were used in collecting behavioural data as demanded by specific conditions.

Plate-4.1 : The Chutkiavita beat inside the forest about 3 Km. north-east of Ambari Range Office. This was used by the author as his residential quater during most part of the study period.

Plate-4.2 : The scooter and the field assistant who helped the author inside the forest during the study period.



Plate - 4.1



Plate - 4.2