

# Behaviour of Black Buck in Kaimure Wild Life Sanctuary Mirzapur Sonebhadra, UP

Jay Singh

Department of Zoology, Nagrik PG College, Janghai, Jaunpur, India

Yashodhara Sharma

Department of Zoology, HNB Govt. PG College Naini, Allahabad, India

## ABSTRACT

The research activities are the least priority area in Vindhyan region. Though, it is high time to organize research well as monitor conservation activities in this area. Therefore, the present work has been undertaken to study the ecology, and behavior of black-buck so that some contribution could be made in the proper conservation and management of the wild life biodiversity of Vindhyan region with special reference to this prey-base animal which has an ornamental value also. The seals of the Indus valley civilization (Circa 3500 BC) depict black-buck, as do the rock paintings of central India (Circa 5000-2500 BC). The black-buck continued to remain a favorite subject of the Rajput, Mughal and later the Pahari painters. The word “Mriga” (deer) is a generic term in the classical Indian language implying both does and antelopes and appears often in the Vedas, the Purana, the Buddhist Jatakas and stories of the “Panchatantra”. When depicting on illusory; mriga with the Golden Fleece, with which the demon Rawan tempted Sits, is an incident of vital significance in the Ramayana epic. Medieval painters always portray the black-buck. Akbar’s son Jahangir was a keen observer of animal behavior and patron of arts. Jahangir nominated his favorite black-buck ‘Mansaraj’ as the “Chief” of his captive black-buck and when the animal died, an imposing ‘hurl (around fortress like building) surrounded by a moat was built in his memory (Tuzuk-l-Jahagiri, Janhangir). The monument still exists.

**Keywords :** Mriga, Panchatantra, Vindhyan region

## Article Info

Volume 9, Issue 2

Page Number : 586-589

## Publication Issue

March-April-2022

## Article History

Accepted : 01 March 2022

Published : 30 March 2022

## I. INTRODUCTION

The present study is confined to the ecology and behavior of an endemic, timid and beautiful antelope commonly known as black-buck in Kaimur wildlife sanctuary. Kaimur wildlife sanctuary is situated in the civil district of Mirzapur and Sonbhadra between 24033' and 24073' North latitudes and between 82012' and 82021' East longitudes. This area is characterized by tropical dry deciduous and scrub forests, interspersed with open Savannah patches of central Vindhyan ranges covering a part of drainage basin of the Ganges river system,

which has been ancient home for number of wild species. Since black-buck forms an important component of food chain and major prey base for carnivores, their destruction will be danger point for them. White, a hue and cry is raised about poaching of tiger, the silent hunting of black-buck is still going on without a word of protest. Gentleman, farmers and tourist in hotels just outside the protected area have no feeling of moral consideration in picking up venison. Villagers living at the fringe of forest also think that they have right to pick up some good meat occasionally. All eyes are focused on tiger and on the contrary, the number of this timid beautiful mammalian fauna is dwindling fast.

Despite such a rich traditional and socio religious background, India is still witnessing serious depletion of this beautiful biological heritage. The drastic-decrease in the population of black-buck had led the emphasis to work out the ecological and natural behavior of the animal and also to workout serious conservation techniques for the increase of the population in protected areas as well.

#### **Materials and Methods:**

The newly formed divisional head quarter 'Vindhyanchal' in U.P. comprises of three districts viz. Mirzapur, Sonbhadra and Sant Ravidas Nagar (Bhadohi). The present investigation is confined to the study of ecology and behaviour of Black-buck (*Antelope cervicapra*) with special reference to conservation and management of the species in Vindhyan forest ranges which covers the southern part of district Mirzapur and Sonbhadra. This region is made up of alluvial plains, Vindhyan sand stone rocks, along with tropical dry deciduous and scrub forests, interspersed with open savannah patches.

The six months before the registration of my synopsis were devoted chiefly to the study of black-buck in the study area i.e. Vindhyan forest ranges, to determine which aspects of ecology and social behavior are important to quantify their number, to record details of social interactions and to trace the development of fawn of known age in order to establish the basis for comparison with other free living herbivores.

It soon became apparent that a wild life study such as I had in mind was feasible only in a sanctuary because the animals in the unprotected forest were usually so shy and sparse that prolonged observations proved difficult. It was also desirable to locate a site with low human and livestock populations as well as one where the possibilities of viewing the wild life were adequate throughout the year.

### **BEHAVIORAL STUDIES OF BLACK-BUCK**

#### **DAILY ACTIVITY CYCLE**

Daily routine of grazing and resting of *Antelope cervicapra* changes somewhat with the seasons. During the cool weather the animal rise with the first pale light at about 6 'O' clock morning and then grazed intermittently throughout the day. Resting period remains usually between 9 p.m. and 4 a.m. The rest periods are utilized for ruminating. One herd, which was

observed during the night of 27-28 February, 2004 grazed until about 9 p.m. in Mahuaria, Robertsganj.

During the hot weathers the animal rose at about 5 'O' clock morning and feed until around 7.30 a.m. After that they often withdraw themselves into the shades until late afternoon, spending much less time in foraging during day light than in the previous season (Photoplate 25A, 25B). During the monsoon, with its abundant forage, the *Antelope cervicapra* stand around and walk a great deal but seems to feed little.

In the Halia range I saw that *Antelope cervicapra* move closer to agriculture or crop grounds towards the evening but not actually enter the field till the dark. The early part of the night was a period of rest, around mid night intermittent grazing, thereafter, an intensive grazing from predawn onwards. They frequently continued to feed in field well past sunrise till the cultivators drive them off.

## FOOD AND FEEDING BEHAVIOUR

I observed the daily, monthly and annual pattern of activity of black-buck and observed that the black-buck is primarily diurnal. Once I observe in Halia range that a black-buck caught a ripe bel fruit (*Aegle marmelos*) by inserting a hook which was left on the ground the black-buck reached near

and ate it. However, the food intake of the black-buck the sanctuary mainly consisted of grasses, sedges and herbs and agricultural crops. At the onset of the monsoon, black-buck feed on *Cynibopagon caerius rotundus*, *Cynodon dactylon* and *Astrids* species. In the dry season, black-buck consume mainly *Tridax procumbens*, *Calotropis procera*, leaves of *Carisa* species, *Acacia nilotica* and fruits of *Phoenix sylvestris*.

It is relatively easy to determine the principal food species of the black-buck in a given area, even though this changes with the season. However, these principal food species are very frequently not the preferred food species of the animal. The later can be assessed by the percentage of a food species in the diet divided by the percentage of its availability in the habitat. Since black-buck population in all the ranges of sanctuary live in areas adjacent to agricultural crops which they raid whenever available, it is difficult to assess precisely its preferred foods, especially the wild grasses.

## COURTSHIP MATING BEHAVIOUR

### MATURITY PERIOD

Maturity period of female black-buck was assessed with the help of local people as well as the sanctuary workers. As per information gathered some black-buck reached sexual maturity just prior to attaining the age of 4 years, but would have been able to reproduce at least a year earlier. An immature male whose period of birth was approximately known, mated in Halia range at the age of a little over 3  $\frac{1}{2}$  years. However, in view of the harem and quasi-harem situation in most of the herds, the breeding is very largely carried out by males of the age group 5 to 7 years. While, I observed at the Halia range, a female first fawned at the age of 2 years and one month, another at the age of almost 2.5 years and a third at the age of 2 years 1 month and 22 days. Three females gave birth when approximately 22 months old. In black-buck valley, Mahuarua, Robertsganj the earliest record of a conception and birth is at the age of 8 months and at the age of 13.5 months, respectively. During the estrous cycle the female is receptive for approximately 24 hours.

### COURTSHIP BEHAVIOUR

Initially *Antelope cervicapra* males thrashed the bushes or saplings available with horns in aggression. The forelegs were slightly spread angled for better balance and occasionally the pre-orbital glands were also wiped on the vegetation during and after thrashing. In barren or semi-arid areas, thrashing of vegetation of course was hardly witnessed further this appeared to be substituted by a vigorous rubbing of the ground with horns in a, semicircular motion.

The rutting behaviour is marked by prolonged courtship, terminating in short forceful copulation. The courtship and copulation is primarily the activity of adult dominant male and female in heat, through unsuccessful attempts are made by the younger males and yearling males.

Courtship is initiated by the adult dominant who searches and follows the females in heat. The dominant male in the rutting period sniffs the vulva of every adult females and, at times, of yearling females too. Generally when the adult male sniffs the vulva of female in heat, she urinates and the adult buck licks the streaming urine with rapid head movements and finally after sniffing the ground gives a head-up display with twisting lips. This gesture have been termed as 'Flehmen' the bucks are able to determine the state receptivity in females by her odour. On finding such a female the dominant male exhibits 'tending behaviour'. The buck remains close to the female, puts his neck on her rump, walks gracefully by her side and occasionally sniffs and licks her hind parts. If the female standstill, the dominant male also stands by her side and gives a head-up display which is some times reciprocated by the female. If the female lies down, the male also rests by her side or at a few feet away.

Initially *Antelope cervicapra* males thrashed the bushes or saplings available with horns in aggression. The forelegs were slightly spread angled for better balance and occasionally the pre-orbital glands were also wiped on the vegetation during and after thrashing. In barren or semi-arid areas, thrashing of vegetation of course was hardly witnessed further this appeared to be substituted by a vigorous rubbing of the ground with horns in a, semicircular motion.

The rutting behaviour is marked by prolonged courtship, terminating in short forceful copulation. The courtship and copulation is primarily the activity of adult dominant male and female in heat, through unsuccessful attempts are made by the younger males and yearling males.

Courtship is initiated by the adult dominant who searches and follows the females in heat. The dominant male in the rutting period sniffs the vulva of every adult females and, at times, of yearling females too. Generally when the adult male sniffs the vulva of female in heat, she urinates and the adult buck licks the streaming urine with rapid head movements and finally after sniffing the ground gives a head-up display with twisting lips. This gesture have been termed as 'Flehmen' the bucks are able to determine the state

receptivity in females by her odour. On finding such a female the dominant male exhibits 'tending behaviour'. The buck remains close to the female, puts his neck on her rump, walks gracefully by her side and occasionally sniffs and licks her hind parts. If the female standstill, the dominant male also stands by her side and gives a head-up display which is some times reciprocated by the female. If the female lies down, the male also rests by her side or a t a few feet away.

#### **SOCIAL BEHAVIOUR WITHIN GROUP**

In both mixed and female herds, affinity between two females, often of different age groups, was noticeable. This was expressed in proximity in movement, rest and feeding and in the general co-ordination of actions though there was no way of ascertaining it positively, this could will be a bond between a mother and a grownup daughter.

Yearlings sometimes grouped together in a herd, both in movement and in play. Fawns which are over a fortnight old also associate with each other. Older fawns are usually the first to be allowed to approach a new born

fawn in a herd,. A bond of association develops amongst the fawns which frequently leads to the establishment of close companionship between two fawns who do almost everything together except nurse.

#### **References:**

1. Agrawal, K. C. (2010): Biodiversity, Agrobios (India), Jodhpur, 144pg.
2. Ansell, W. (1960). The breeding of some larger mammals in Northern Rhodesia. Proc.Zol.Soc. London, 134:251-73
3. Brown, CE.(1936): Rearing wild animals in captivity, and gestation periods, J.mammal,17(1):10-13
4. Dainik Jagran (2005): Untimely death of black buck is major cause of water, A survey report, Dated 22.06.05, p.7.