



Activities Related to Feeding Behaviour of Cheetal Deer in Corbett National Park Uttarakhand, India

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ABSTRACT:

This study is conducted in Bijrani and Jhirna zone of Corbett National Park. The Bijrani zone is famous among the tourist for presence of abundance of Cheetal with other wild species. The Jhirna zone is a dense forest and there is also an abundance of Cheetal and other wild species. This zone is famous for presence of Tiger sighting and tusker (Elephant) movement. Cheetal is a herbivorous animal and it eats almost every species of grass, green leaves of trees, and certain species of herbs, shrubs, flowers, fruits, seeds, bark etc. This study shows different activities related to feeding behaviour of Cheetal deer. In Cheetal deer the fixed-grazing timing, standing-posture, vigilance-activities, group-composition, friendly-behaviour with other herbivorous, Monkeys and Peacock etc. are commonly observed in this study. These activities are helpful in the survival of this species and Cheetal population is increasing in Corbett National Park.

Keywords: Dispersal of food, Ruminating, Kosi river, Ringoda, Sunset, Public opinion.

Introduction:

Jim Corbett National Park Uttarakhand, established in 1936 with its main objective "To save the Tiger". Along with this, the capturing and hunting of all mammals, reptiles, and birds were completely banned in this Park [5]. Cheetal deer (*Axis axis*) is found abundantly in Corbett National Park with its sympatric species i.e., Sambar deer, Barking deer and Hog deer [8]. Cheetal is a herbivorous animal and it eats almost every species of grass, green leaves of trees, and certain species of herbs, shrubs, flowers, fruits, seeds, bark etc. Cheetal is a primary level consumer; it plays an important role in the forest ecosystems and provides a substantial economic resource for many communities [11]. The population and herd size of Cheetal deer varies with seasonal factors. Dispersal of food items or the closed nature of the forest may preclude formation of larger groups [7]. Group composition represents social organization of the Cheetal herd [6]. The behavioural activities are grazing, standing, lying, ruminating, rutting activities, tending, mounting, flesh men, marking activities etc. recorded during field visits [4]. A vigilant activity shown by Cheetal is standing erect, stretching its neck is the visible sign of its alertness [1].

Materials and Methodology:

For Study Area, the Bijrani zone and Jhirna zone of Jim Corbett National Park were selected as study site 1st and study site 2nd respectively [2]. The entry gates of both areas are at some distance from Ramnagar city, and the Buffer area of Bijrani zone is adjacent to Kosi River and Ramnagar city. The buffer area of Jhirna zone is adjacent to Dhela zone with Dhela, Patrani and Sawaldey village. The latitude and longitude of the Bijrani zone are 29.4613° N and 79.1478° E respectively and its total area is 117.77 sq km. The distance of the Bijrani zone is 11.0 km from Ramnagar city. The latitude and longitude of the Jhirna zone are 29°26'N and 78°56'E respectively and its total area is 56.99 sq. km [5].

The direct observation method is used for primary data collection. The field visits were conducted from November 2017 to June 2019. In these two years study, field visits have been done in eight months each year including the winter and summer seasons. The gypsies were hired for field visits in the tourist zone. While in the buffer area, visits have been done with rural people. Field visits have been done two times in every study month. The following items were used to directly observe the study animal, a Nikon digital camera (24.2MP), Binocular (Pantax s10×50) and Mobile [3]. The vegetation is identified by the help of a nature guide.

For feeding activities the Cheetal herds were observed in the five transects of 1.0 sq. km randomly selected from the grassland area with mixed tree species, waterside area, Sal-dominated forest, dense shrub area, and large grassland (Chaur area) habitat in both Bijrani and Jhirna zone. The herds were counted separately in above five different habitats.

The questionnaire method has been also done to the local community living near Corbett Park. A total of 100 questionnaires were done by visiting 60 houses in the villages near the Bijrani (Aamdanda Khatta and Ringoda) and Jhirna zone (Dhela and Patrani) and 40 questionnaires from gypsy drivers and nature guides. The questionnaires were done in monsoon season (July 2018 to October 2018).

Results and Discussion:

Different kinds of behavioural activities in Cheetal deer

1. Timing of Grazing: In winter season, the timing for grazing is depend on sun to avoid the cold as in morning it start after sun rise, afternoon (in sun light) and before sun set [10]. While in Summer season, the grazing timing is starting in early morning before sun (in open grassland) and late evening after sun set (to avoid hot) in afternoon some Cheetal are seen resting in shady places.



Figure 1: A buck Cheetal deer resting at shady place in Corbett National Park

2. Feeding Behaviour in different Group size:

In Corbett Park Cheetal are found grazing in groups. Small groups are found of females with their fawn. While large groups composed of 2-5 dominant male and remaining individuals are female, yearling with fawns. In winter season, Cheetal mostly found in large groups (more than 100 individuals) grazing in open grassland (39% public opinion). In summer season, Cheetal mostly found in 2-10 individuals feeding in shrub area and shady places near the water stream area. In monsoon season, Cheetal are found in groups of 10-100 individuals feeding in grassland.

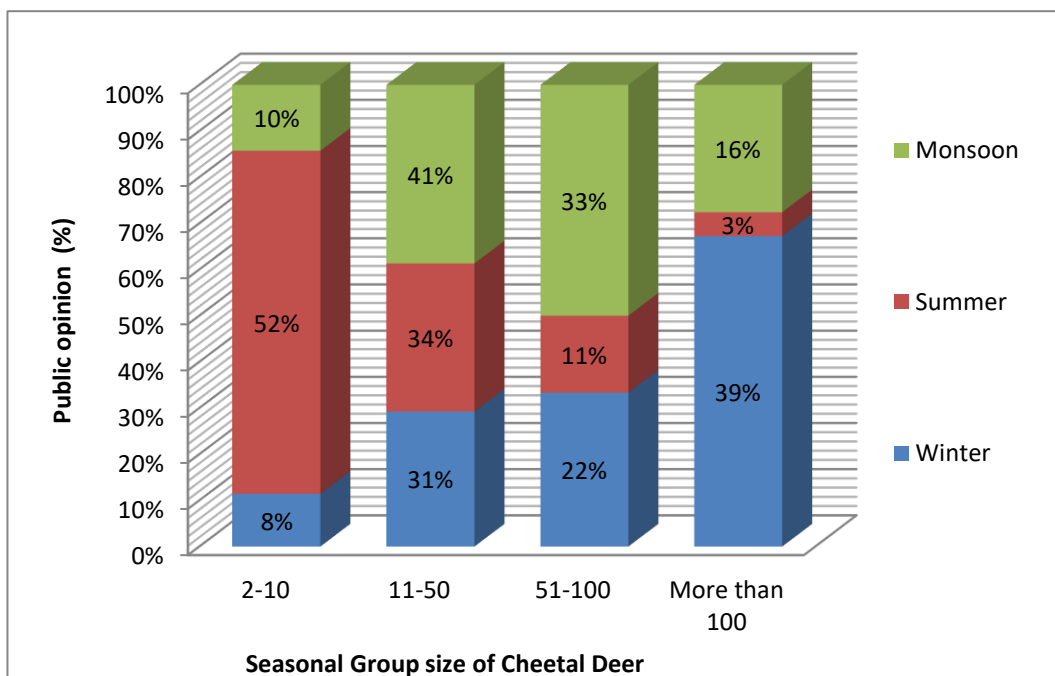


Figure 2: Results of questionnaires (in %) for Seasonal Group Size of Cheetal deer

3. Vigilance Behaviour during feeding: Some dominant males hide behind bushes or in tall grass when large groups graze in grassland. These dominant males guard their group against predators. These males are alerted when a predator is spotted. In Corbett Park, when tourists stop the gypsy and observe the Cheetal herds, the males move their ears in circular movement, stomp on the ground and sound alarm and by these activities they inform whole group for presence of predator.

4. Feeding with other animals (With Monkeys, Sambar and Peacock): In Pre-winter and winter season, Cheetal are mostly found under Jujube shrub. Jujube is the favourite food of Cheetal, its fruits are green, yellow-red in colour. It is sweet and sour in taste. Jujube is also favourite to monkeys. Due to which the monkeys eat it and the remaining fruits keep falling down. So the herds of Cheetal eat fallen berries of Jujube. Like this, other fruits like Bael, Amla, Gular, Tendu etc. also keep falling down due to monkeys and Cheetal eat them. Some fruits also fall on the ground by the movement of the monkeys on the trees and are available to Cheetal. Some big grasses like Kush, Ganeria, Munj, Sarkanda, Sawai, Kansa, Sarkanda, Elephant grass and Tiger grass etc. are liked by Cheetal, Sambar and Barking deer so they are found grazing together. Cheetal groups are also found grazing along with the Peacock and Elephants.

5. Browsing Behaviour: Cheetal preferred some browse food like Peelu, Kari plant, and Vasaca etc. in dense shrub area. Cheetal eats new tender leaves, flowers and fruits from the lower branches of trees like Rohini, Jamun, Khair, Amla, Kachnar and Jamun etc. In summer, when the grass dries up, they eat the leaves of Sal, Shisham, Haldu, Semal, Bael, Gular, Mahua, Bahad, which fall on the ground in the Sal-mixed forest.



Figure 3: Herd of Cheetal Deer at Ramnagar-Ranikhet National Highway

6. Feeding in Buffer area: In Corbett, Cheetal move to the buffer area for their favorite food. At this time they are found near houses, road-side and in adjoining forest. The villages near to the Bijrani and Jhirna zone are Aamdanda, Dhikuli, Ringoda, Kaniya, Sawaldehy, Dhela and Patrani etc. and crops of these villages are badly damaged by Cheetal. The villages make boundaries of the fields with dry wood-bushes and fencing wires to save the crop from the herd of Cheetal. As soon as flowers and fruits appear on the fruit trees of the village, Cheetal come and eat them. In buffer area Cheetal eats fruits like Mango, Guava, Papaya, Pomegranate, Amla, Lemon etc. The flowers grown near the houses are chewed along with the leaves like Hibiscus, Marigold, Sunflower and some local flowers. The common vegetables near the houses are Sarso, Palak, Methi, Dhaniya, Muli, Arbi, Pinal, Adrak, Kakri, Torai, Louki, Tamatar, Began, Sem ki fali etc. Cheetal also eats these vegetables in buffer area.

Conclusion:

According to the above study, different activities related to feeding behaviour of Cheetal deer are seen in Corbett Park. Cheetal shows friendly behaviour with its sympatric herbivores (Sambar and Barking deer) and other animal like Monkeys and Peacock. In Corbett, Cheetal prefers different grasses and also prefers browsing food items. Cheetal also moves to the buffer area for their favourite food. Due to these different activities, there is no shortage of food for Cheetal and its population increases.

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