

**Short Communication**

**DEER POPULATION GROWTH IN THE BANGABANDHU  
SAFARI PARK IN BANGLADESH**

AMIR HOSSEN<sup>1</sup>, M. FARID AHSAN<sup>2</sup> AND MOHAMMAD KAMRUZZAMAN<sup>3</sup>

<sup>1</sup>Department of Zoology, Jagannath University, Dhaka, Bangladesh

<sup>2</sup>Department of Zoology, University of Chittagong, Bangladesh

<sup>3</sup>Center for Environmental and Geographic Information Services (CEGIS),  
Dhaka, Bangladesh

Deer are the most ancient of all typical ruminants (Prater 1980) and widely distributed across the Indian Peninsula, Burma, Sri Lanka, and Indo-Malayan countries (Blandford 1888-91). The Family Cervidae belongs to 17 genera where the entire Asia has 9 (2 extended to Europe) (Grubb and Gardner 1998). Four deer species, Spotted Deer (*Axis axis*), Hog Deer (*Axis porcinus*), Sambar (*Cervus unicolor*) and Barking Deer (*Muntiacus muntjak*) are kept in the Bangabandhu Safari Park (BSP). Presently, Spotted Deer has a restricted distribution in Bangladesh; Hog Deer is remarkably a rare species both in wild and captive conditions. The Barking Deer is comparatively widely distributed but Sambar is the rarest species in the wild.

A limited number of individuals of Sambar is surviving in captivity in our country, but a large number of them live in the semi-captivity like the BSP with a good breeding and growth rates. The BSP authority has been trying to provide a natural environment for establishing Sambar population since 1982. At present Sambar population in the DSP is the most important stock in Bangladesh. The breeding rate of the Spotted Deer is remarkably high in this semi-captive environment than any other species whilst reintroduction of Spotted Deer in the Chittagong Hill Tracts had failed (IUCN-Bangladesh 200 and Khan 1985). On the contrary, Spotted Deer and Barking Deer have been breeding successfully in all zoos of the country. In the BSP, habitats include a mixture of hardwoods, bush lands and pasturelands which provide the most suitable environment.

The Bangabandhu Safari Park is the first of its kind in Bangladesh. It is situated 107 km south of Chittagong City in 1982 under Chakoria upazila of Cox's Bazar District surrounded by the Fasiakhali Range of the Cox's Bazar North Forest Division. The geographic location is 21°40'6.7" to 21°40'6.9" N latitude and 92°4'68.44" to 92°4'68.48" E longitude. The altitude is about 9 meter from the mean sea level.

The current study was conducted between June 2007 and May 2008. A 3-day field visit in each fortnight interval was conducted to collect data. In addition, Safari Park related

---

<sup>3</sup> Corresponding address: mkzaman1979@gmail.com

information and data were gathered from secondary sources including office and staffs of the park, Forest Department office records, published papers and unpublished reports.

**The Spotted Deer.** Twenty Spotted Deer caught from the Sundarbans of Bangladesh were later released in this park in 1982. The line transect surveys shown that the wild population of Spotted Deer in the park was 266 and later 34 were kept in an enclosure including some of confiscated as illegal collections. The population growth of Spotted Deer in this park was noted remarkably high. Of the deer, 75 (25%) adult males, 180 (60%) adult females, 30 (10 %) juveniles and 15 (5%) infants observed during the study. The adult male-female ratio was 1:2.4 and adult - young ratio was 1:0.17.

The adult male of Spotted Deer (wild population) is longer and heavier than the adult female. Their pinna and tail lengths are more or less same. Measures in wild population (n=8), showed that adult body length was 95-110 cm, weight 43-52 kg, shoulder height 47-55 cm, pinna 9-11 cm and tail 10-14 cm. Similarly, the body length of a captive adult is 90-105 cm, weight 38-50 kg, shoulder height 43-55 cm, pinna 9-11 cm and tail 10-13 cm (n=8). The observations indicated that the wild Spotted Deer in the park is slightly longer and heavier than that of captive ones. The weight of adult was measured by several workers, viz., adult male 59.8 kg and female 54.4 kg (Anonymous 1989); male 65.77 kg at Kanha National Park in India (Schaller 1967); and the large male may reach up to 86.2 kg (Brander 1923).

**The Hog Deer.** Wildlife biologists believed that Hog Deer had gone extinction from wild of Bangladesh (Khan 2004, Biswas and Mathur 2000 and Khan 1985) but an individual was caught from Rangamati in 2003 and kept it in the BSP. Later, 4 individuals brought to the park from a private collection of a person in Khagrachari. The Hog Deer also gave birth at the park and now there are 8 individuals of which 2 adult males, 3 adult females, 1 juvenile and 2 infants.

The average body length of an adult was 104 cm, weight 39.75 kg, and shoulder height 27.75 cm, pinna 9.75 cm, and tail 8.37 cm. The male is heavier than the female.

**The Sambar Deer.** Two adults (male and female) were released during the establishment of Bangabundhu Deer Breeding Centre in 1982. Later 5-6 adults were released in the enclosures. Currently, 30 deer (7 adult males, 15 adult females, 3 juveniles and 5 infants) are living in the enclosures with 1:2.1 adult male-female and 1:0.36 adult juvenile-infant ratios. On the basis of annual count (2006-2008), the growth rate of Sambar population is 7.14%.

The adult male is longer and heavier than an adult female. The pinna and tail lengths are more or less same where antler of the male is 30-50 cm long. The average body length of an adult is 393.25 cm, body weight 144 kg, pinna 17.1 cm and tail 20.6 cm (n=10). According to Slee (1984), considering the ambient environment and food availability body length and height even body weights have a relation.

**The Barking Deer.** In 1982, during the establishment of the Bangabandhu Deer Breeding Centre, 8 Barking Deer were found in the area. Later, 15 were brought from private collections of few persons in the Chittagong Hill Tracts in 2003 and released them in this park. Time to time confiscated individuals were released, but the number could not be ascertained from the park office. The line transects surveys have shown that the wild population size is 186 and 14 individuals were seen in an enclosure of this captivity. Of them, 45 (22.5 %) were adult males, 100 (50%) adult females, 30 (15%) juveniles, and 25 (7.5%) infants. The adult male-female ratio was 1:2.2 and adult-young ratio was 1:0.04.

Generally, the adult male of Barking Deer is longer and heavier than the adult female. Their pinna and tail lengths are more or less same. The wild adult body length is 92-115 cm, weight 35-47 kg, shoulder height 50-62 cm, pinna 8-10 cm and tail 10-12 cm (n=6). Similarly, captive adult body length is 96-115 cm, weight 53-61 kg, shoulder height 32-41 cm, pinna 8-10 cm and tail 10-12 cm (n=6). Therefore, the measurements of wild and captive individuals are same.

Beginning of the year 1982, the BSP authority had collected (able to collect) two individuals of Sambar male and female. After 26 years the population growth had reached with 30 individuals including 7 males, 15 females, 3 juveniles and 5 infants. The Hog Deer population was found to be with 8 individuals including 2 males, 3 females, 1 juvenile and 2 infants in the captivity with good environment. The Hog Deer and Sambar are critically endangered (CR) in the wild (IUCN-Bangladesh 2015) and they almost brink of extinction in Bangladesh.

## References

- Anonymous. 1989. *Studies on the breeding biology and food consumption of spotted deer (Axis axis Erxleben, 1777) and sambar deer (Cervus unicolor Kerr, 1792) in captivity*. Unpublished M. Sc. thesis, University of Dhaka, Dhaka. 100 pp.
- Biswas, T. and V. B. Mathur. 2000. A review of the present conservation scenario of hog deer (*Axis porcinus*) in its native range. *Indian Forester*, **126(10)**:1068-1084.
- Blandford, E. T. 1888-91. *The fauna of British India including Ceylon and Burma, Part-II, Mammalia*. Taylor and Francis, London. 558 pp.
- Brander, A. 1923. *Wild animals in Central India*. Oxford University Press, London. 50 pp.
- Grubb, P. and A. L. Gardner. 1998. *List of deer species and subspecies of the families Tragulidae, Moschidae and Cervidae*, IUCN. Deer Specialist Group IUCN, Cambridge. 36 pp.
- IUCN-Bangladesh. 2000. *Red list of threatened animals of Bangladesh*. IUCN-The the World Conservation Union. xii + 54 pp.
- IUCN-Bangladesh. 2015. *Red List of Bangladesh Volume 2: Mammals*. IUCN- The International Union for Conservation of Nature, Bangladesh Country Office, Dhaka, Bangladesh, pp. xvi+232.
- Khan, M. A. R. 1985. *Mammals of Bangladesh: A field guide*. Nazma Reza. Dhaka. 92 pp.
- Khan, M. H. 2004. A report on the existence of wild hog deer in Bangladesh. *Bangladesh Journal of Zoology* **32**: 111-112.
- Prater, S. H. 1980. *The book of Indian animals, 3<sup>rd</sup> edition reprinted with corrections*. Bombay Nat. Hist. Soc. 323 pp.
- Schaller, G. B. 1967. The deer and the tiger. *Study of wildlife in India*. The University of Chicago Press, Chicago. 37-92 pp.
- Slee, K. 1984. *The Sambar Deer in Victoria*. In deer refresher course proceeding, p.559, ed. T.G Hungerford.no.72, University of Sydney.

(Revised copy received on 3/5/2017)