

CERTAIN SEROLOGICAL VALUES OF CAPTIVE SPOTTED DEER *Axis axis* AT MANDA ZOO, JAMMU

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Practice and experience gained by routine blood examination combined with development of more accurate techniques provide reliable diagnostic insights into disease processes in wild animals.

Spotted Deer *Axis axis* is the most common deer in India belonging to the family Cervidae. There is a dearth of useful published data on the haematobiochemical profile of wild animals. Most of the data available on the wild animal haematopoietic response to disease is related to the more common domestic species. Keeping this in mind the following studies have been undertaken to monitor the health, disease status and effectiveness of conservation programme of Spotted Deer at Manda Zoo of Jammu.

Twenty-one Spotted Deer stags aged between 1-2 years were selected from a large herd reared at Manda Zoo. The deers were immobilized by physical restraint, caught by one person in a small outdoor room and held down while a blood sample was taken with minimum of excitement and struggle in order to obtain physiological values not influenced by other factors (Hussain *et al.*, 2002).

Blood samples were obtained from the jugular vein using disposable needle (18G) and syringe. About 4ml of blood was placed into tubes containing anticoagulant (Sodium EDTA & Sodium fluoride mixture) with the remainder (about 6ml) being placed into a non-anticoagulant tube. Blood in the non-anticoagulant tube was left to clot at room temperature for 1hr. Blood tubes with no anticoagulants and anticoagulant were centrifuged at 2500rpm for 10min. The plasma and serum was removed and stored in a deep freezer (-20°C) until analysis.

The blood metabolite like total serum protein, glucose, blood urea nitrogen, calcium, phosphorus and alkaline phosphatase were determined using standard diagnostic kit (supplied by Qualigen Fine Chemical, Mumbai).

Observation on serum and plasma chemistry of Spotted Deer are presented in Table 1. Plasma glucose concentration in the deer was slightly higher compared to the reference range (50-80mg/dl) (Fowler, 1986). Salakij *et al.* (1999) also recorded higher blood glucose value i.e. 98.0 +/- 17.4mg/dl from physically restrained Rusa Deer. Serum protein concentration in the deers was within the normal range (6.20-8.00mg/dl) which are in agreement with Arora *et al.* (1985). Blood urea nitrogen, calcium,

Table 1. Biochemical status of Spotted Deer *Axis axis* at Manda Zoo, Jammu

S.No.	Parameters	Values
01	Blood glucose	84.38 + 5.15mg/dl
02	Total protein	6.28 + 0.14gm/dl
03	Blood Urea Nitrogen	25.28 + 0.81mg/dl
04	Calcium	9.14 + 0.81mg/dl
05	Phosphorus	7.60 + 0.16mg/dl
06	Alkaline Phosphates	66.33 + 1.74I.U.

phosphorus levels and alkaline phosphatase followed the normal trend as observed by Salakij *et al.* (1999). The finding in their study did not show any marked elevation in any individual animals, though, stress as a factor due to handling cannot be ruled out. The overall blood biochemical profile indicated that the Spotted Deer are reared in good managerial and nutritional condition. There may be a chance for variation from the normal range due to captive stress, nutritional and health status (Sahoo & Arora, 2002).

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