

BIOMETRY OF TESTICLES AND SPERMATOZOA OF A SPOTTED DEER (*Axis axis*)

The spotted deer (*Axis axis*) is the most commonly found member of the *Cervidae* family in India. Though they are found in large numbers in Indian zoos, studies on their reproductive parameters are found to be scarce. Usually, in cervids shortening of day length stimulates luteal hormone secretion which in turn activates testicular development, spermatogenesis and secretion of testosterone. However, tropical deer show little or no seasonality and may breed throughout the year (Flach, 2003).

The present paper discusses the biometry of testicles and spermatozoa of a spotted deer. During postmortem examination of an adult male spotted deer of Thrissur Zoo, testicles were recovered and the biometry was done and the results are presented in Table (1). Biometry of spermatozoa aspirated from cauda epididymis also was done. The

length, width and thickness of the right testis were 5.7, 3.9 and 3.6 cm respectively and the corresponding measurements of the left were 5.5, 3.9 and 3.5 cm. The caput epididymis had a width and thickness of 3.3 and 2.1 cm on the right and 3.2 and 2.0 cm on the left respectively. The length, width and thickness of the right cauda epididymis was 1.2, 1.6 and 1.2 cm, respectively and that of the left was 1.0, 1.6 and 1.2 cm, respectively. The values obtained were comparatively lesser than that of small ruminants like sheep and goat. The weight of the right testis was 51.16 g and that of the left was 50.59 g.

The semen sample aspirated from the cauda epididymis was stained with two per cent eosin and ten per cent nigrosine and the stained smears were examined microscopically. The various measurements of 200 spermatozoa were taken and

Table 1. Biometry of testis of a spotted Deer (*Axis axis*)

Parameter	Testis		Caput epididymis		Cauda epididymis	
	Right	Left	Right	Left	Right	Left
Length (cm)	5.7	5.5	-	-	1.2	1.0
Width (cm)	3.9	3.9	3.3	3.2	1.6	1.6
Thickness (cm)	3.6	3.5	2.1	2.0	1.2	1.2
Weight (gm)	51.16	50.59	-	-	-	-

Table 2. Biometry of spermatozoa of a spotted Deer (*Axis axis*)

Parameter	Mean (μm)	Range (μm)
Head (Length)	8.2 \pm 0.027	7-9
Head (Width)	4.93 \pm 0.14	4-5
Midpiece (Length)	10.11 \pm 0.03	68-12
Tail (length)	40.99 \pm 0.14	35-45
Total length	59.02 \pm 0.15	55-68

the values are presented in Table (2). The mean length of head, midpiece and tail were 8.2 ± 0.027 , 10.11 ± 0.036 and $40.99 \pm 0.14 \mu\text{m}$ respectively. The mean width of the head was $4.93 \pm 0.14 \mu\text{m}$ and the mean total length of the sperm was $59.02 \pm 0.15 \mu\text{m}$. The length of the head obtained in the present investigation was slightly lesser than that reported by Sundararaman *et al.* (2006) ($8.35 \pm 3.24 \mu\text{m}$). However, the mean width of the head obtained was in consonance with that of Sundararaman *et al.* (2006) ($4.92 \pm 2.31 \mu\text{m}$). The length of the midpiece and tail of the spermatozoa was lower than that of other ruminants (Mishra and Mukherjee, 1984; Koley and Mukherjee, 1985).

Summary

The biometry of testicles and spermatozoa of a spotted deer (*Axis axis*) is placed on record.

References

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