

# MORTALITY IN DIFFERENT SPECIES OF CAPTIVE WILD HERBIVORES OF ASSAM STATE ZOO, ASSAM

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## Abstract :

Causes of mortality in 18 different species of captive wild herbivores of Assam State Zoo for a period of 5 years have been studied. Of the total 214 animals, 121 animals were adults, 60 calves and 33 subadults (124 males and 90 females). On the basis of diagnosis, the following conditions were recorded in order of decreasing frequency : traumatic injury with complications (34.11%), tuberculosis (19.62%), pneumonia (10.28%), neonatal mortality (7.47%), capture myopathy (6.54%) colibacillosis (5.14%), bloat (2.33%), senility (1.86%), mixed infection of fasciola and amphistomes (1.40%) and intussusception and volvulus (1.40%). Candidiasis, haemonchosis, cestodiasis, metritis and peritonitis were recorded in 2 (0.93%) cases each, while pseudotuberculosis, necrobacillosis, botryomycosis, peracute mortality, cirrhosis, shock, traumatic reticulo-pericarditis, hernia, dystocia, and organophosphorus poisoning were recorded in 1 (0.46%) case each.

It was found that the captive herbivores suffered from a wide variety of diseases, some of which are rare in occurrence and have been recorded for the first time in this study.

## Introduction :

A systematic study of etiopathology of mortality of captive wild animals is yet to be undertaken in our country, however, some preliminary study has been carried out (Khan, 1979; Rathore and Khera, 1982, Rao and Acharjyo, 1984 and Acharjyo and Rao, 1987a). The present investigation was planned to study the causes of mortality in different captive wild herbivores of Assam State Zoo for a period of five years, 1985-1989.

## Materials and Methods :

A total of 214 carcasses of 18 different species belonging to 8 families of herbivorous mammals of the State Zoo of Assam from 1985 to 1989 formed the material for the present study. The different animals studied were of the order - Artiodactyla - 195; Perissodactyla-16 and Proboscidea-3. The age of the animals was arbitrarily divided into calf, subadult and adult and the period was divided as 0-2 years, 3-5 years and above 5 years, respectively, in case of Artiodactyla while in Perissodactyla it was 0-2 years, 3-10 years and above 10 years. In Proboscidea, it was 0-5 years for calf, 5-20 years for subadult and above 20 years for adult.

**Table - I**  
**CAUSES OF MORTALITY IN DIFFERENT SPECIES OF ANIMALS**

Species	Cause of death	Number of deaths
1. Spotted deer ( <i>Axis axis</i> )	Tuberculosis	10
	Bacterial pneumonia	2
	Viral pneumonia	2
	Colibacillosis	1
	Traumatic injury	11
	Capture myopathy	4
	Metritis and peritonitis	1
	Bloat	1
	Fascioliasis and amphistomiasis	1
	<b>TOTAL</b>	<b>33</b>
2. Barking deer ( <i>Muntiacus muntjak</i> )	Tuberculosis	8
	Colibacillosis	2
	Bacterial pneumonia	3
	Aspiratory pneumonia	1
	Zygomycotic pneumonia	1
	Traumatic injury	14
	Complication of injury	3
	Capture myopathy	4
	Agalactia	2
	Shock	1
	Decomposed and undiagnosed	2
	<b>TOTAL</b>	<b>41</b>
3. Sambar ( <i>Cervus unicolor</i> )	Tuberculosis	8
	Necrobacillosis	1
	Bacterial pneumonia	4
	Zygomycotic pneumonia	1
	Candidiasis	1
	Traumatic injury	5
	Complication of injury	18
	Dystokia	1
	Agalactia	2
Undiagnosed	1	
	<b>TOTAL</b>	<b>42</b>

Species	Cause of death	Number of deaths
10. Serow ( <i>Capricornis sumatraensis</i> )	Bacterial pneumonia	3
	Colibacillosis	2
	Traumatic reticulopericarditis	1
	Traumatic injury	1
	Haemonchosis	1
	Cestodiasis	1
	Agalactia	3
	<b>TOTAL</b>	<b>12</b>
11. Ladakhi goat ( <i>Capra ibex</i> )	Haemonchosis and hydatid cyst	1
	Cestodiasis	1
	Still birth	1
	<b>TOTAL</b>	<b>03</b>
12. Mithun ( <i>Bos frontalis</i> )	Tuberculosis	1
	Fascioliasis and amphistomiasis	1
	Agalactia	1
	Still birth	1
	<b>TOTAL</b>	<b>04</b>
13. Water buffalo ( <i>Bubalus bubalis</i> )	Fascioliasis and amphistomiasis	1
	<b>TOTAL</b>	<b>01</b>
14. Giraffe ( <i>Giraffa camelopardalis</i> )	Tuberculosis	2
	Bloat	1
	Peracute death	1
	Senility with accompanied lesions	1
	<b>TOTAL</b>	<b>05</b>
15. Hippopotamus ( <i>Hippopotamus amphibius</i> )	Traumatic injury	1
	Still birth	2
	<b>TOTAL</b>	<b>03</b>
16. Rhinoceros ( <i>Rhinoceros unicornis</i> )	Colibacillosis	2
	Capture myopathy	2
	Complication of injury	4
	Agalactia	1
	Still birth	1
	Senility with accompanied lesions	2
	<b>TOTAL</b>	<b>12</b>

Species	Cause of death	Number of deaths
17. Zebra ( <i>Equus zebra</i> )	Botryomycosis	1
	Traumatic injury	1
	Organophosphorous poisoning	1
	Senility accompanied with associated lesions	1
	<b>TOTAL</b>	<b>04</b>
18. Elephant ( <i>Elephas maximus</i> )	Colibacillosis	1
	Intussusception	1
	Complication of injury	1
	<b>TOTAL</b>	<b>03</b>

Table-2

INCIDENCE OF MORTALITY OF DIFFERENT SPECIES IN RELATION TO AGE AND SEX

Order	Family	Species	Total Numbers	Adult	Sub Adult	Calf	Male	Female
Artiodactyla	Cervidae (132)	Spotted deer	33	26	5	2	19	14
		Barking deer	41	22	7	12	24	17
		Smbar	42	28	6	8	25	17
		Hog-deer	11	8	1	2	8	3
		Thamin deer	2	1	1	--	--	2
		White fallow deer	3	3	--	--	1	2
	Tragulidae (6)	Mouse deer	6	5	--	1	3	3
	Bovidae (49)	Nilgai	17	8	3	6	12	5
		Blackbuck	12	3	2	7	6	6
		Serow	12	3	2	7	6	6
		Ladakhi goat	3	1	1	1	2	1
		Mithun	4	2	--	2	2	2
		Water buffalo	1	1	--	--	--	1
		Giraffidae (5)	Giraffe	5	3	1	1	2
	Hippopotamidae (3)	Hippopotamus	3	--	--	3	2	1
Perissodactyla	Rhinocerotidae (12)	Rhinoceros	12	4	2	6	9	3
		Equidae (4)	Zebra	4	3	1	--	1
Proboscidea	Elephantidae (3)	Asian	3	--	1	2	2	1
		Elephant						
<b>TOTAL</b>			<b>214</b>	<b>121</b>	<b>33</b>	<b>60</b>	<b>124</b>	<b>90</b>

# INDIAN ZOO YEAR BOOK

VOLUME - I, 1996

*Editors*

**S.K. PATNAIK  
L.H. ACHARJYO**

*Published By*

**INDIAN ZOO DIRECTORS' ASSOCIATION  
&  
CENTRAL ZOO AUTHORITY**

