

## A COMPARATIVE STUDY OF RATE OF BIRTH AND MORTALITY IN LION-TAILED MACAQUE (*MACACA SILENUS*)

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### Introduction

Lion-tailed macaque (LTM) is native of dense lonelier forests, evergreen forests of Western Ghats from North Kanara southwards to Kerala and Kanyakumari (TN). This species has been included in schedule-I Part-I (mammals) of Indian Wildlife (Protection) Act, 1972. Sugiyama (1968) reported that the population in its natural habitat in southern India numbers less than 1000 individuals, while Hill (1971) states as result of his visits to the Subcontinent in 1968 and 1969 that the species is decidedly in danger and recommends captive breeding programmes to save its extinction.

Desai and Malhotra (1976) conducted the captive survey of this species and found that as on 1st March, 1975 there were 62

(29 M - 33 F) specimen living in 16 Indian Zoos and the subsequent survey in 1989 evidenced 52 specimen in 14 Indian Zoos.

The 1989 International Lion-tailed macaque study book accounted for 1,152 specimen, of which 475 (236 M, 234 F, 5 Y) were still living throughout the world with largest stable number of animals, 301 (156 M, 142 F, and 3 Y) in North America (Gledhill, 1989).

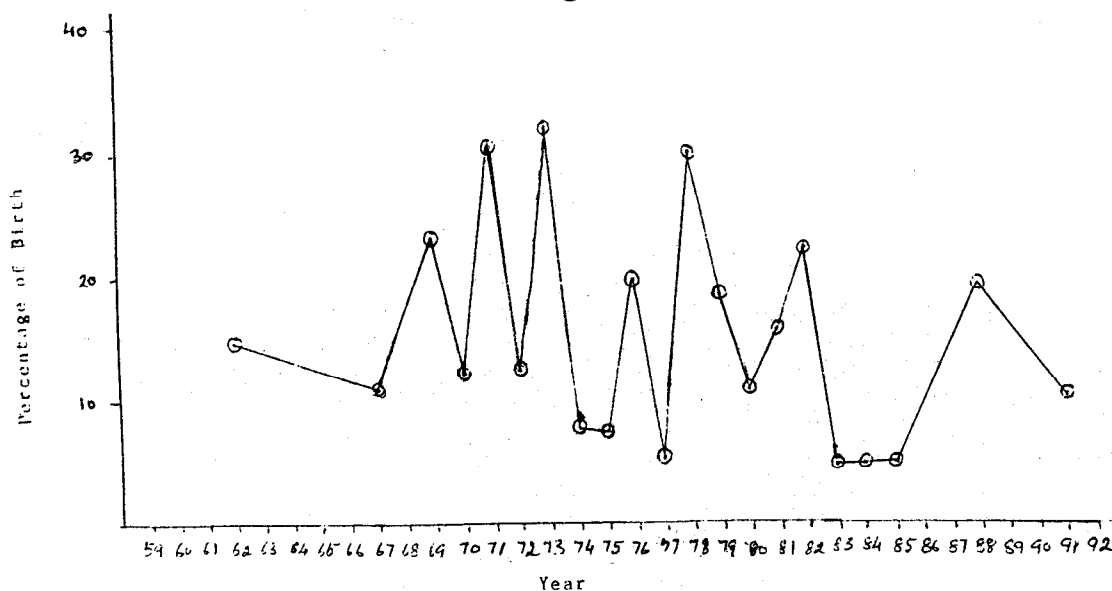
### Materials and Method

The data on birth, death, departure and arrival of LTM w.e.f. Jan., 1962 to Dec. 1991 of National Zoological Park (NZP) and for the year 1973 to 1990 of Kanpur was collected and analysed. Percentage rate of birth and mortality was determined and results are given in the Table 1.

**Table 1**  
*Average mortality rate in LTM at NZP and KZP*

Clinical	NZP (1962-1991)		KZP (1973-1990)	
	No. of cases	(%)	No. of cases	(%)
Systematic	11	42.31	-	-
Specific	2	7.69	-	-
Miscellaneous	3	11.54	1	20
Undetermined	10	38.46	3	60
Urogenital	-	-	1	20

Figure 1

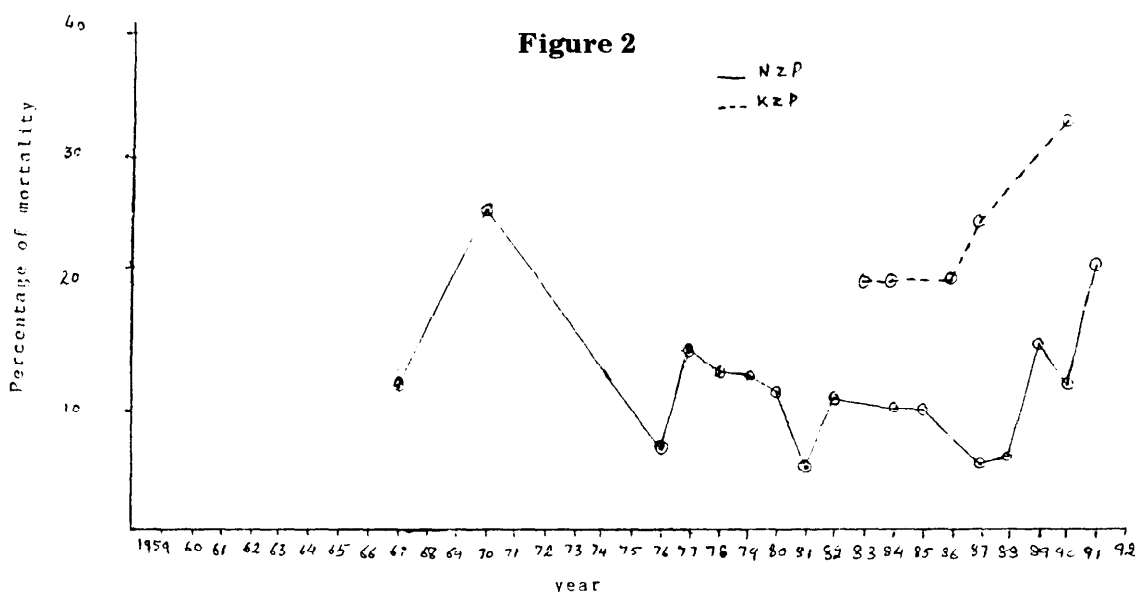


Average percentage of birth rate of lion-tailed macaque during the period from 1959 to 1991 of National Zoological Park (NZN).

### Results and Discussion

National Zoological Park, recorded a total of 41 births from 1962 to 1991 with an average population 12 at risk per year. No birth was recorded during the periods from 1959 to 61, 1963 to 66, and in the year 1968, 1986-87 and 1989-90, however maximum of 32.29% births was recorded in 1972, with an average of 10.53%. The births were accounted during the different months of the year. Whereas in Zoological Park, Kanpur, there was an average population of 4 at risk. In this Zoo only 4 births were recorded during the period of 1973 to 1990.

The average percentage of births of Lion tailed macaque is given in Figure 1. The analysis of 26 recorded deaths at NZP and 5 deaths in Kanpur Zoo during these periods is summarised in Table 1. The overall mortality of lion-tailed macaque was 6.68% at NZP and 23% at Kanpur Zoo respectively. The average mortality rate is given in Fig 2. Frequency of mortality due to systematic was 42.31%, specific 7.69% and miscellaneous 11.54% at NZP. At Kanpur Zoo mortality due to undetermined causes was 60%, while it was 38.46% at NZP. One case each of Distokiya and wound has also been recorded at Kanpur Zoo.



The average rate of mortality of Lion-tailed macaque for the period from 1959 to 1991 of National Zoological Park, New Delhi (NzP) and for the period from 1973 to 1990 of Zoological Park, Kanpur (KzP).

### SUMMARY

Lion-tailed macaque (LTM) has been included in Schedule-I, Part-I (Mammals) of Indian Wildlife (Protection) Act, 1972. The data on its births, deaths was collected from National Zoological Park w.e.f. January, 1962 to December, 1991 and for the year 1973 to 1990 from Zoological Park, Kanpur. The average recorded deaths and their census in these Parks during those periods have been mentioned in this study.

सिंह पुच्छ कपि ( *मकाका सिलेनुस* ) की जन्म और मृत्यु दरों का तुलनात्मक अध्ययन  
बी० एम० अरोड़ा व ए० के० मलहोत्रा

### सारांश

सिंह पुच्छ कपि को भारतीय वन्य प्राणी (सुरक्षा) अधिनियम 1972 की अनुसूची 1, भाग 1 (स्तनि) में सम्मिलित किया गया है। इसके जन्म और मृत्यु के जनवरी 1962 से दिसम्बर 1991 तक के आंकड़े राष्ट्रीय प्राणी-विज्ञान उपवन से तथा वर्ष 1973 से वर्ष 1990 तक के प्राणी-विज्ञान उपवन, कानपुर से इकट्ठे किए गए। इन उपवनों में अभिलिखित औसत मृत्यु और उनकी इन अवधियों में गणना का उल्लेख इस अध्ययन में किया गया है।

### References

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