

NOTES ON MAMMALIAN FAUNA OF RAJASTHAN

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Rajasthan (23°3'-30°12'N and 69°30'-78°17'E) is the second largest state (3,42,274km²) of the country. The Aravalli is the principal and dominant mountain range running diagonally across the state from Delhi in the northeast extending southwest to the plains of Gujarat for a length of about 692km. A considerably large portion of the state to the west of the Aravalli is desert (rainfall of 100-400mm). The region east of the Aravalli is relatively fertile. The Aravalli Hills of northeastern, southwestern and southern Rajasthan are covered with deciduous forest, which turn lush green during monsoon. Mt. Abu however, has semievergreen forest owing to its towering height and high rainfall.

Due to variable habitats and climate, Rajasthan had rich mammalian fauna before independence. The increasing biotic interference after independence has not only reduced mammalian fauna, but even a change in the distribution ranges have been noticed. Hence, in this paper the present status of mammalian diversity in Rajasthan has been discussed. Faunistic surveys made by earlier workers in Rajasthan were consulted (Bates *et al.*, 1994a,b,c; Divyabhanusingh, 1986; Joshi, 1984; Prakash, 1994, 1995; Rahmani, 1991; Rana, 1991; Rice, 1991; Sankaran, 1992; Sankhala, 1979; Saxena, 1975; Singh & Sharma, 1985; Singh, 1985; Tehsin, 1980, 1987; Tripathi *et al.*, 1985; Wada, 1984). The two national parks and most of the wildlife sanctuaries as well as rural and tribal pockets of Rajasthan were visited to collect latest information on wild mammals. Their census records were procured from the Rajasthan State Forest Department, Jaipur (Anonymous, 2001). On the basis of their occurrence, the wild mammals are classified into five categories *viz.*, common, rare, recently reported, locally extinct and probable future invaders. Scientific names and common names are after Nameer (1998).

In the post independence era, the principal factors adversely affecting wildlife in the state are population explosion (330%;

based on 1951 and 1998 census, Source: census reports of 1951 and 1998) and increase in urbanisation and industrialization (510%; based on 1975 and 1998 data; Gupta, 1987; Anonymous, 1999a). Additional land required for all these anthropogenic activities has resulted in shrinking forest cover of the state (66%; based on forest cover of 1993 and 1999; Anonymous, 1999a,b). The rise in domestic animal populations (59%; based on livestock data of 1962 and 1997; Anonymous, 1964, 1999a) is also a threat to wildlife, as they often share same habitats for grazing. The present status of wild mammals of Rajasthan has been discussed below in detail.

Common mammals

Majority of the commonly occurring mammals in Rajasthan are found in protected areas (Table 1). *Macaca mulatta* occurs in eastern and southeastern Rajasthan (Wada, 1984; Tehsin, 1950; Sankaran, 1992). Rodents are distributed throughout the state except for *Hystrix indica* which is declining fast because of its use as food during festivals by tribals and nomads. Striped Palm Squirrel (*Funambulus pennanti*) and *Lepus nigricollis* are found all through Rajasthan, whereas Large Flying Squirrel is confined to the Sitamata Sanctuary, Chittoragarh (Tehsin, 1980). *Gazella* is mainly concentrated in the Thar Desert near Bishnoi villages. *Sus scrofa* once found all over Rajasthan now occurs only in the protected areas. It is known to raid the agricultural fields in the vicinity of protected areas. Earlier, the state rulers protected boars because they were favorite game animals, but recently farmers do not favour this animal because they are very destructive to crops. Boars are now rapidly invading command area of Indira Gandhi Nahar Pariyojna (IGNP) in the Thar (Prakash, 1994). The Blue Bull *Boselaphus tragocamelus* flourishing in the plains of Rajasthan is now rapidly migrating in IGNP area and is also becoming a serious menace to crops. It moves in herds of four to 10 or even more individuals (Prakash, 1995). *Cervus unicolor* is mainly concentrated in the dense forest areas in southern parts of the state. Both Common Mongoose (*Herpestes edwardsi*) and Small Indian Mongoose (*Herpestes auropunctatus*) are still found abundantly in the fields. *Herpestes smithi* is present in wooded areas of Rajasthan especially in the forests of Nahargarh, Jamwa, Ramgarh, Siriska and Ranthambhore.

Rare mammals

As per 1901 record, the total tiger population in the state was 3500, now it is reduced to 66. Once "Nahari ka Naka" – a water hole in Nahargarh, Jaipur was a home to tigers and other large cats (Joshi, 1984). It is now restricted to the dense deciduous forest of Sariska (Alwar), Ranthambhore, Karauli and Bundi. The population of Jungle Cat *Felis chaus* has also declined considerably as compared to the past (Table 2). *Caracal* once commonly found near Jaipur is now extremely rare (Sankhala, 1979). *Melursus ursinus* (Sloth Bear) once found most commonly in the wooded part of Rajasthan is now confined to Ranthambhore, Karauli, Kumbhalgarh, Mt. Abu and Phulwari

Table 1. Common mammals of Rajasthan

Name of species	Common name	Present status	Census	
			1999	2000
<i>Macaca mulatta</i>	Rhesus Macaque	Eastern and southeastern Rajasthan	N.A	N.A
<i>Semnopithecus entellus</i>	Hanuman Langur	Whole Rajasthan except very arid western part	N.A	30814
<i>Panthera pardus</i>	Leopard	Whole Rajasthan except desert	111	405
<i>Felis chaus</i>	Jungle Cat	Whole Rajasthan	N.A	N.A
<i>Felis sylvestris</i>	Desert Cat	Barmer, Bikaner, Jaisalmer, Pali Nagaur	800*	-
<i>Paradoxurus hermaphroditus</i>	Toddy Cat	Whole Rajasthan	N.A	N.A
<i>Herpestes javanicus</i>	Small Indian Mongoose	Eastern and western Rajasthan	N.A.	N.A
<i>Herpestes brachyurus</i>	Brown Mongoose	Southern Rajasthan	N.A	N.A
<i>Herpestes smithii</i>	Ruddy Mongoose	Wooded areas of Rajasthan	N.A	N.A
<i>Herpestes edwardsii</i>	Common Mongoose	Whole Rajasthan	N.A	N.A
<i>Hyaena hyaena</i>	Striped Hyaena	Whole Rajasthan	1489	1069
<i>Canis aureus</i>	Jackal	Whole Rajasthan	12445	13436
<i>Melursus ursinus</i>	Sloth Bear	Ranthambhore, Karauli, southern Rajasthan and Pali	480	325
<i>Suncus murinus</i>	Grey Musk Shrew	Whole Rajasthan	N.A	N.A
<i>Pteropus giganteus</i>	Flying Fox	Whole Rajasthan except external desert district	N.A	1113
<i>Cynopterus sphinx</i>	Short-nosed Fruit Bat	Wooded districts of Rajasthan viz. Banswara, Bundi. Bharatpur, Jhalawar, Udaipur	N.A	N.A
<i>Funambulus pennantii</i>	Five Striped Palm Squirrel	Whole Rajasthan	N.A	N.A
<i>Tatera indica</i>	Indian Gerbille	Whole Rajasthan	N.A	N.A
<i>Meriones hurrianae</i>	Indian Desert Gerbille	Sandy tract of State	N.A	N.A
<i>Rattus rattus</i>	House Rat	Whole Rajasthan	N.A	N.A
<i>Vandeleuria oleracea</i>	Long-tailed Tree Mouse	Whole Rajasthan	N.A	N.A
<i>Cremnomys cutchicus</i>	Kutchch Rat	Southern Rajasthan	N.A	N.A
<i>Millardia meltada</i>	Metad	Thar desert	N.A	N.A
<i>Mus musculus</i>	House Mouse	Whole Rajasthan	N.A	N.A
<i>Mus booduga</i>	Indian Field Mouse	Whole Rajasthan	N.A	N.A
<i>Mus phillipsi</i>	Phillips's Mouse	Southern Rajasthan	N.A	N.A
<i>Golunda ellioti</i>	Indian Bush Rat	Whole Rajasthan	N.A	N.A
<i>Bandicota bengalensis</i>	Indian Mole Rat	Whole Rajasthan	N.A	N.A
<i>Hystrix indica</i>	Indian Porcupine	Whole Rajasthan	N.A	N.A
<i>Gazella bennettii</i>	Chinkara	Whole Rajasthan especially western Rajasthan	4121	5300
<i>Antelope cervicapra</i>	Black Buck	Alwar, Bikaner, Tonk Sirohi, Jalore, Sikar, Jhunjhunu Jodhpur, Nagaur, Churu and Pali	1629	1831
<i>Boselaphus tragocamelus</i>	Nilgai	Whole Rajasthan	N.A	N.A
<i>Cervus unicolor</i>	Sambhar	Dense forest areas of state, but decreasing in southern part	N.A	N.A
<i>Axis axis</i>	Chital	Whole Rajasthan	13862	367**
<i>Sus scrofa</i>	Indian Wild Boar	Whole Rajasthan, gradually appearing in IGNP area also	N.A**	367

IGNP* = Indira Gandhi Nahar Pariyogna

Wildlife Sanctuary. It is also present in Kota region. *Manis crassicaudata* (Ant Eater) distributed widely earlier is now rare. During 1996, one specimen was caught in Kalkana Village near Nasirabad in Ajmer District (Sharma, 1995). On 23-24 April 1986 three wild dogs (*Cuon alpinus*) were seen in Sariska (Diyabhanusingh, 1986). Perhaps this species is now no more in Sariska, though very much present in Ranthambhore.

Recently reported mammals

This category includes five mammals. *Prionailurus rubiginosus* is reported only from Udaipur and Sariska, while *Prionailurus viverrinus* from Alwar, Bharatpur, Pali and Udaipur. *Petaurista*

philipinus is known only from Sitamata Sanctuary and *Moschiola meminna* from southern Rajasthan. A small population of Gangetic Dolphins *Platanista gangetica* is present in Chambal River in Karauli region of Rajasthan (Singh & Sharma, 1985).

Locally extinct mammals

Axis porcinus, once reported from Keoladeo National Park, Bharatpur, is not recorded from the area in the recent past (Saxena, 1975).

Table 2. Rare mammals of Rajasthan

Name of species	Common name	Present status	Census	
			1999	2000
<i>Panthera tigris</i>	Bengal tiger	Sariska (Alwar), Ranthambhore (Sawai Madhopur), Karauli and Bundi	408	405
<i>Caracal caracal</i>	Caracal	Ajmer, Pali, Ranthambhore (Sawai Madhopur), Sariska (Alwar)	N.A	N.A
<i>Canis lupus</i>	Wolf	Desert part of Rajasthan, Kumbhalgarh (Rajasamand), Jaipur	273	213
<i>Vulpes vulpes</i>	Red Fox	Whole Rajasthan	4290	5147
<i>Vulpes bengalensis</i>	Indian Fox	Whole Rajasthan	N.A	N.A
<i>Lutrogale perspicillata</i>	Smooth Indian Otter	Perennial big water bodies of the State	N.A	N.A
<i>Tetracerus quadricornis</i>	Four-horned Antelope	Jalore, Pali, Udaipur, Ajmer, Dholpur, Chittorgarh	12	
<i>Manis crassicaudata</i>	Indian Pangolin	Whole Rajasthan	N.A	N.A

Probable future invaders

This includes wild animals not reported earlier but is likely to be present in Rajasthan. *Paraechinus hypomelas* confined to Pakistan may occur in the border areas. With increased irrigation in the arid areas, *Bandicota indica* are likely to enter in the irrigated pockets along Indira Gandhi Canal. Similarly, with increased availability of water and vegetation cover, Nilgai and Wild Boar are not only appearing in IGNP area but they are gradually proceeding ahead along the canal (Rana, 1991).

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Table 3. Recently reported mammals in Rajasthan

Name of species	Common name	Present distribution	Census	
<i>Prionailurus rubiginosus</i>	Rusty-spotted Cat	Udaipur, Sariska (Alwar)	N.A	N.A
<i>Kerivoula picta</i>	Painted Bat	Tarapur (Alwar)	N.A	N.A
<i>Petaurista petaurista</i>	Large Brown Flying Squirrel	Sitamata Wildlife Sanctuary	N.A	N.A
<i>Moschiola meminna</i>	Mouse Deer	Southern Rajasthan	N.A	N.A
<i>Plantanista gangetica</i>	Gangetic Dolphin	Chambal River (Karauli- Dholpur area)	N.A	N.A

Table 4. Locally extinct mammals of Rajasthan

Name of species	Common name	Previously distributed	Census	
			1999	2000
<i>Axis procinus</i>	Hog Deer	Once reported from KNP (Saxena, 1975)	N.A	N.A
<i>Panthera leo</i>	Lion	Whole Rajasthan (this species was present in Jodhpur and Mt. Abu) Blanford (1888-98)	N.A	N.A
<i>Acinonyx jubatus</i>	Cheetah	This species was fairly common in the vicinity of Jaipur Storendole (1884)	N.A	N.A
<i>Equus onager</i>	Asiatic Wild Ass	Jalore, Bikaner, Jodhpur, Jaisalmer	N.A	N.A
<i>Rhinoceros unicornis</i>	Great Indian One-horned Rhinoceros	Kali Banga (Ganganagar 3500-400BC)	N.A	N.A

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Table 5. Probable future invaders

Name of species	Common name	Probable future invader	Census	
			1999	2000
<i>Bandicota indica</i>	Large Bandicoot Rat	Due to increase in irrigation this species has probably reappeared in the command area and is likely to extend in whole IGNP* area	N.A	N.A
<i>Parnechinus hypomelas</i>	-	It is confined to Pakistan and is likely to occur in border area.	N.A	N.A.

IGNP* = Indira Gandhi Nahar Pariyogna