

# **MAMMALS OF THE THAR DESERT**

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*To my mother  
and  
grand Children*



## PREFACE

Deserts occupy one third of the land space in the world and are usually considered as arid wastes. To most of us the word "desert" conjures up the vision of a vast tree-less, undulating, buff expanse of sand which is lifeless (called "marusthal"). It is considered to be a dreaded habitat where death is inevitable. But in fact, this picture is not true for any desert of the world and more so for the Thar desert which is the most populous arid zone of the world. Above 16 million human beings and 23 million livestock animals abound the western Rajasthan. The Thar desert is very much living, it is amazing, it is unique. For the last forty five years I have roamed through it, on foot, on the bullock cart, on the camel back and in modern vehicles. It has only filled me with ecstatic joy, has left me bewildered with its beauty, with the charm it emanates and with the remarkable survival strategies evolved by the plants and animals alike. With the first shower of the season, the forbidden ocean of sand assumes a gay cloak of the most magnificent greenery. The sweet patter of the long-awaited rain drops break the slumber of dormant seeds lying buried under the sand, the desert is transformed almost overnight into a garden as if by the touch of a Sorcerer's magic wand. The tiny snails, eggs of which were awaiting a conducive environment to hatch, start creeping all over the expanse of the desert, one watches with awe the vividly coloured butterflies fluttering over the flowers of native plants. Contrary to popular imagination, the Thar desert is an animal lovers paradise. One only has to look around to wonder at the rich and variegated animal life that this inhospitable tract harbours within its orbit. At day's end, when the sun exhausts its fury and the howling winds calm down to a soothing breeze, the desert really comes to life. The denizens of the desert have learnt to venture out only during the cooler nights-nocturnalism is one of the few tricks they have learnt in the course of their evolutionary history to eke out a successful living in the terrain of their choice. These strategies also include a fossorial life, living inside the cooler environment of the burrow system; omnivory, to feed on whatever is available; besides adaptations of body forms, behaviour and the functioning of the internal organs.

These marvels of animal life, the glory of the past wildlife harboured by the desert and the fury of the Thar, which I have behold, enjoyed and appreciated are excellent marvels of the evolutionary process, I want to share with others, especially the younger people and non zoologists—hence this book.

The present day students are much engrossed in their text books. If any illustrated publication on the natural history of animals is within their reach, they have the time to look at it to enhance their knowledge about India's natural heritage, the animals around them, their local, english as well as zoological names. They can also know about the survival mechanisms animals have evolved to withstand the harsh desert environment. The animals avoid extremes of temperature by shifting their period of activity to the most conducive time of the day. Most of the mammals are, therefore, nocturnal in habit and venture out of their burrows or dens during night.

Since the climatic changes during a year are drastic in the desert, green vegetation is available to mammals for food only during monsoon. Annual plants vanish during summer. The mammals also alter their food habit accordingly. Even the seedivorous mammals start feeding on insects and rhizomes of plants. This change in food assists them to maintain the water balance in the body also. They do not get water to drink. This need they fulfill through consuming water-containing plant parts and insects. Most of the desert mammals are capable of generating metabolic water through hydrolysis of body fat. They can conserve body water by passing concentrated urine. Most mammals synchronise their major littering activity with monsoon when food availability and climatic conditions are favourable. All these adaptations make the denizens of the desert more successful.

It was also realised that very little reading material on nature is available in our country. If children can conceive the idea of preservation of ecological systems at their formative age, they will not only admire the nature, the plants, the flowers and the animals around them, they will be able to participate in various environment programmes. A generation of younger people will be triggered to protect, conserve and propagate the natural ecology and Nature's wonderous handicrafts.

Attempts have been made in this book to introduce various types of mammals living in the Rajasthan desert to non-zoologists through line drawings and by providing their brief description, size, distribution, habits and behaviour. From the social behaviour of wild mammals, the school going students can learn as to how they help each other, develop tolerance for others, share resources in a zone of miseries and scarcity, the desert. If the younger generation can transform from

individualistic attitude to that of living in a community of coexistence; my endeavour to present mammals of the Thar in a popular style will be fruitful.

I had conceived this book many years ago but was unable to find a good artist for sketching the figures. Luckily, through Dr. Tapan Sen Gupta of the Zoological Survey of India, Calcutta, Shri Arun Ghosh was contacted and he readily agreed to help me by sketching the required mammal diagrams. I express my gratitude to Dr. Sen Gupta and Shri Arun Ghosh. Dr. N.S. Rathore sketched the diagram of *Rhinopoma*. Dr. Pulak Kumar Ghosh, Principal Scientist, Central Arid Zone Research Institute, Jodhpur, my friend indeed, gave many suggestions on the style and presentation of mammalian descriptions. Shri Pawan Kumar unhesitatingly agreed to print the compendium. The typesetting work was painstakingly handled by Mr. Akshya Kumar Chakravartty. I am very thankful to them for all the help rendered.

Gratitude is expressed towards Dr. A. Ghosh, Director Zoological Survey of India, Calcutta, for his enthusiastic support.

At the Desert Research Station of the Zoological Survey of India, Jodhpur, one and all staff members, especially Dr. Q.M. Baqri, the Deputy Director, provided me excellent facilities, a calm and care-free environment which helped me in completing the work rather in a short duration. Indian National Science Academy, New Delhi, provided financial support by nominating me as its Senior Scientist. I am grateful to all for the support.

Wife Lakshmi and children, Shubhra, Mukta and Gaurav kept me on my toes to finish this write up. Without their continuous encouragement and moral support, the publication might have been delayed.

It is hoped that my efforts will add to the knowledge of the common people and will inculcate love for animals and will induce them to draw pleasure by watching the mammals in their natural environment.

August 15, 1993  
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