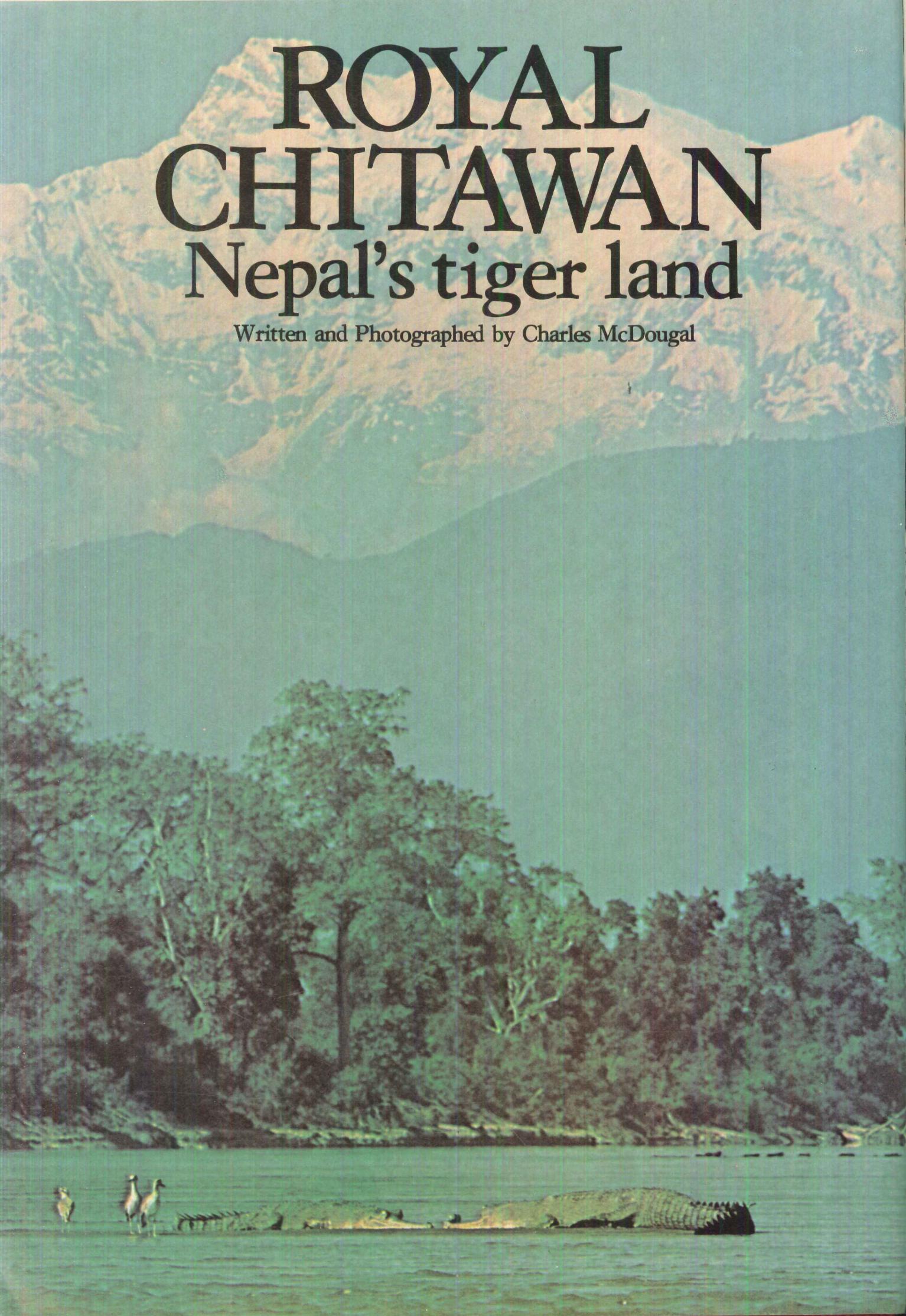


ROYAL CHITAWAN

Nepal's tiger land

Written and Photographed by Charles McDougal





On a typical early December morning in the Chitawan Valley, the thick mist limited visibility to a few yards. My vision was even more drastically reduced by the fact that my elephant was advancing through a seemingly endless expanse of 20-foot-tall grass and thick reeds topped by silver fronds, wet with dew. Although I could not see much, a sound ahead alerted me to the presence of a rhinoceros, which was confirmed a few seconds later when some agitated myna birds rose noisily into the air from its back. The rhino also detected our approach, and moved off through the grass in the direction of some silk cotton trees.

The noise made as the two-ton body surged through the coarse grass kept me informed of its progress. Then the sound ceased. As my elephant abruptly emerged from the reeds into a small clearing a few seconds later, there was a large grey shape which resolved itself into a rhino, a big bull, pugnaciously viewing us from the other side. While I was still taking in the scene, the rhino lowered his head and took one step closer. I noted the elephant's mahout tensing himself for a charge, but it never came.

The rhino was in fact an old friend, which I recognised by his torn left ear and by the scar on his shoulder. He was one of nearly 300 great one-horned rhinoceroses which inhabit Royal Chitawan National Park in the lowland jungles of the Kingdom of Nepal, a rare an-

imal once on the verge of extinction, but now making a vigorous comeback, thanks to the total environmental protection afforded to the park through the efforts of His Majesty King Birendra's Government. As we watched, the rhino wheeled and went crashing off into the grass, snorting as he went. Had our encounter been with a cow rhino having a calf, her threat display could have been more impressive.

That morning I was not actually out looking for rhino, but was using the elephant to get over that bit of terrain and across the cold waters of the Reu River. Once on the other side, I sent the elephant back the way we had come, while I set off on foot to follow a trail which skirts the foothills, through monsoon forest and bamboo thickets, eventually leading back to camp by a circuitous route. I was indulging in what for me is the most pleasant of pastimes: a quiet walk through the jungle with all the time in the world to absorb the sights and sounds, and to examine the tracks made by different animals during the night.

This was one of the localities I regularly patrolled in order to record the movements of another of Chitawan's endangered animals, the tiger. I had not gone far before I found what I was looking for. Coming onto the path out of a side ravine were the fresh pugmarks of an adult tigress. Selecting a bit of ground where the impressions were especially sharp, I knelt down and examined her tracks carefully. The configuration of the left forefoot, with the outside toe separated from the pad by an exceptionally wide gap, probably the result of an injury, told me who she was — a tigress I knew as Kali, or the 'black' one, so named because of her very dark facial markings, and

one of the three resident tigresses at this end of the park.

There are about 30 adult tigers in the extended area of the park. The latter consists of ideal tiger habitat, including areas of riverine forest, tall grassland, and monsoon forest; both lowlands and hills cut by innumerable ravines. The tiger population in Chitawan is reproducing well. For example, the tigress whose pugmarks I found has raised two litters during the past five years. Moreover, the tigers in the park are not an isolated population, but have contact with others outside it on three sides.

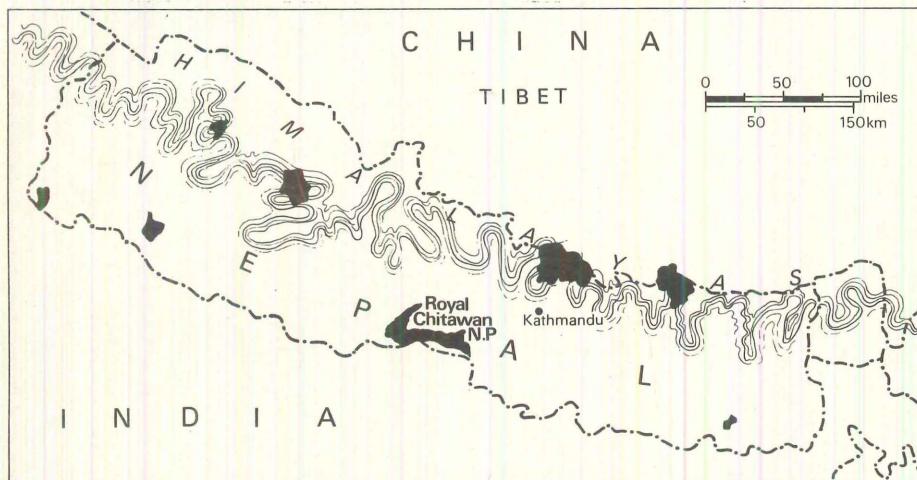
A great variety of ungulates affords ample prey for the tigers. Deer constitute the bulk of their diet, especially the chital or spotted deer, and the much larger sambar, the former being killed in greater numbers, but the latter contributing a larger proportion of the total meat intake. Less important is the little hog deer, while the even smaller barking deer or muntjac is only occasionally killed. Wild pigs are also an important prey species. Although deer and, to a lesser extent, pigs account for most of the tigers' diet, these big cats do kill larger prey, such as the gaur, largest of the world's wild cattle, also represented in Chitawan. For the most part young gaur are taken, but occasionally adults are killed, and sometimes tigers kill rhino calves. At the other extreme, these huge predators also consume monkeys, and even eat frogs, crabs, and fish.

While the tiger is the largest predatory cat, it is not the only one. The park also contains a good number of leopards. Although there is considerable overlap in the species preyed upon by these two, the tiger concentrates on

Rarest of the crocodiles, fish-eating gharials rest against a backdrop of the Himalayas (left); some 35 gharials and 30 tigers (above) are found in Chitawan



Deer constitute the bulk of the tiger's diet in Chitawan. The large sambar (above) provides a considerable proportion of the meat intake; little hog deer (below) are less important



the larger prey animals, the leopard on the smaller ones.

Not only is Chitawan fortunate in having grasslands and forests that contain healthy populations of rhinos and tigers, but in addition the waters of the great rivers which drain the valley — the Narayani and its tributary the Rapti — support equally valuable wildlife.

Rarest in the wild state of all the world's living crocodilians is the gharial, a fish-eating species characterised by its long, thin snout, now down to fewer than 150 individuals. Chitawan contains the largest single concentration, numbering at least 35, found mainly in the Narayani River. Also endangered, but to a lesser extent than the gharial, is the marsh mugger, which consumes not only fish, but also birds and mammals, and is found primarily in the small lakes and backwaters formed along old river-courses, but occasionally also in the main rivers. Another inhabitant of the Narayani is the Gangetic dolphin, a species adapted to life in fresh water. This dolphin is few in number, and a dam across the river at the border has isolated the Nepalese population in the park from that downstream in India.

Chitawan is most famous for its animals, which in addition to those described includes a variety of small mammals and nearly 350 species of birds. Nevertheless, the park is unique in having preserved perhaps the most extensive as well as the best example of a flora which once was common in the northern part of the Indian subcontinent, but now has all but disappeared.

Well drained by its rivers, which each year deposit fresh alluvium, and containing large

areas of marshy ground, much of it flooded during the monsoon season, the region supports a luxuriant growth of grasses covering large expanses, much of it in stands 20 feet high. Most common are different species of *Saccharum*, but *Phragmites*, *Themeda*, and *Arundo* are also well represented. Following the monsoon these different grasses come into flower, some displaying silver or white fronds, others pink or maroon ones. At that season, when conditions are clearest, you look out over the top of this sea of grass to a 200-mile panorama of Himalayan snow peaks in the distance. In places belts of tropical riverine forest extend along river banks, and the grassland itself is interspersed with groves of

Royal Chitawan is a highlight of our tour of India, Nepal, and Bhutan which departs London 16 February (returns 9 March). Two nights are spent at Tiger Tops, and much of the wildlife mentioned in this article can be seen by the visitor. The price of the tour is £895, and only a few places are left. If you are interested, write to Wildlife.

silk cotton trees, which during February suddenly come into bloom, when their brilliant red flowers are the dominant aspect of the landscape.

The survival of the rhinoceros depends on the existence of these big areas of grassland, and on the pools that form in the marshy ground that they cover, which are essential as wallowing places. The type of grassland now found in Chitawan is the product of annual

fires which have occurred over hundreds of years. Without fire, successional change might result in grass being replaced by other forms of vegetation. The burning of the grass each year beginning in January or February is supervised by the park staff. Soon afterwards fresh green shoots poke their way through and thereafter grow at a phenomenal rate. Nevertheless, the whole subject of fire ecology in this type of ecosystem is as yet poorly understood, and studies are under way to develop more efficient management techniques.

Before 1950 there was little settlement in the Chitawan Valley, which contained over 1000 square miles of virgin forests and grassland. In a few jungle clearings there were villages of an aboriginal people, the Tharus, who appear to have had some resistance to the especially virulent and deadly form of malaria then endemic, which had effectively discouraged other settlers. Then Chitawan was used as the hunting preserve of the Rana family, who at that time ruled Nepal. Every few years, during the winter months when there was little danger of malaria, they organised grand hunts, to which were invited distinguished visitors, such as the viceroys of India or the royalty of Europe.

Hundreds of elephants were used to ring tigers and rhinos, large numbers of which were shot. Nevertheless, because the habitat remained intact and in good condition, and because there was an interval of at least two to three years between hunts, the tigers and rhinos were able to recover at least a good part of their losses. As late as 1950 tigers were still plentiful in the Chitawan Valley and, accord-



ing to the most reliable estimate, there were no fewer than 800 rhinos.

However, during the 1950s things changed drastically due to widespread habitat destruction and heavy poaching — which had been almost unknown during the preceding period. This was due to the opening up of the Chitawan Valley to settlers from the hills, where there was a serious shortage of land. With the assistance of foreign aid missions, the Nepalese government launched an effective malaria eradication programme, built a road into the area, and provided facilities for resettlement. In less than a decade more than two-thirds of the forest and grassland were removed to clear land for cultivation.

Moreover, with the rapid influx of settlers, the authorities found it increasingly difficult to cope with the poaching which resulted. Most alarming was the killing of the rhinoceros for its valuable horn, the sale of which could transform a poor man into a rich one overnight. The destruction of the habitat combined with poaching threatened the very existence of the rhino, whose numbers at one point sank to fewer than 200.

Fortunately at that stage His Majesty's Government had the foresight to realise that what remained must be protected. In 1962 a rhinoceros sanctuary was created, and a force of guards, the 'rhino patrol', was established to protect it.

Two years later the government granted a concession for the construction of a small tourist lodge, Tiger Tops, within the sanctuary. They believed that a limited commercial operation, provided that it was at the same time genuinely dedicated to the aims and

goals of conservation, could help to further the preservation of wildlife, both by bringing in much needed revenue and also through conservation education. In the case of Chitawan this has certainly proved to be the case. Various facilities were provided for wildlife viewing by visitors, including elephant safaris, watching from blinds, guided nature walks, canoe trips, and the baiting of tigers and leopards. The lodge buildings were constructed entirely of local materials. Tiger Tops has not compromised in its aim to remain natural while at the same time providing the best of everything.

In 1972 Royal Chitawan became Nepal's first national park, reflecting a greater awareness of the need to preserve the country's wildlife and wild places; other parks and wildlife reserves have since been established. Technical assistance and financial support were provided by the United Nations Development Project, the World Wildlife Fund, and the Fauna Preservation Society. During the brief time since the park was established a lot has been accomplished. Poaching has been almost completely eliminated, both by more effective protection and by a system of monetary rewards for information leading to the arrest of poachers and dealers. The grazing of domestic cattle and buffalos inside the park, at one time a terrible problem, is well on the way to being a thing of the past.

Research programmes have been encouraged with a view to improving management practices. A three-year study of the rhinoceros in Chitawan has been completed by Andrew Laurie of Cambridge University. Laurie, whose research was supported by the New

Extensive grassland areas, and pools that form in the marshy ground, are essential for the great Indian rhino

York Zoological Society, has made a number of valuable recommendations for preserving and improving the rhinoceros habitat, and these are being acted upon. Another research programme concerning the ecology of the tiger as well as ungulate species is being conducted under the auspices of the Smithsonian Institution. In addition, I myself am engaged in studying certain aspects of tiger behaviour.

A special gharial project, involving the United Nations Development Project together with the governments of Nepal and India, offers a good deal of hope for that species. A major problem has been that although the gharials are reproducing, almost every nest is robbed by humans, for the eggs are believed to possess medicinal properties. Now, under the direction of Dr Robert Bustard, the eggs are being collected as soon as they are laid, and later artificially hatched. When large enough to survive on their own, the young gharials are returned to nature. At the same time, better protection is being afforded to the existing gharial habitat.

Only recently the park has been extended from 210 to 360 square miles in area, further proof of the determination of Nepal to preserve Chitawan for future generations.

Charles (Chuck) McDougal, who gained his PhD in anthropology at the University of New Mexico, now lives in Nepal. Since 1972 he has been director of operations and chief naturalist at the Tiger Tops Jungle Lodge in Chitawan.



