



Even in the tough and harsh desert environment, animals and plants have over centuries adapted themselves to survive. The desert species thus are unique and exploring them is a wonderful experience.

**TEXT & PHOTOGRAPHS:** DHARMENDRA and DIVYA KHANDAL

# DESERT SONATA



A flock of demoiselle cranes (preceding pages)

Two of the many snake species that have adapted to the desert: the Sind awl-headed snake (below), and the saw-scaled viper (bottom)



The Arabs say, do good and throw it in the river, God will repay you in the desert. This may sound esoteric but deserts – which cover almost one-fifth of the earth's surface – are the toughest of landscapes on the planet. The desert indeed is the hottest place on earth; more so with global warming, where every degree rise in temperature has far more effect on this already baking landscape. But even in these tough and harsh environments, animals and plants have over centuries adapted themselves to survive. The desert species thus are unique and exploring them is a wonderful experience.

India's Thar is one of the highly populated desert areas in the world. With an area of 2 lakh square kilometres, the Thar is the 18th largest sub-tropical desert in the world. It is spread over Rajasthan, Gujarat, Haryana and parts of Punjab state, apart from a part in Pakistan.

Though there are many species in the Thar, the community living with them is mostly oblivious to their existence. However, in general, desert communities have a positive outlook towards the conservation of biodiversity around them. The Bishnois of Rajasthan are a wonderful example of showcasing age-old practices of conservation. Bishnois' belief is that every living creature has a right to live on the planet and that their conservation is vital to one's own existence. Just like the Bishnois, many other desert communities too support conservation. Every village or a small hamlet in the Thar has a clearly marked community pasture land to support the domestic livestock as well as the area's wildlife. Also, as most communities are vegetarian, they prevent poaching and provide protected space to the species. Herds of nilgai (Bluebull), chinkara and blackbuck seen in private farms are an example of the local community's co-existence principle.

The main areas for the conservation of desert flora and fauna are the Desert National Park (DNP), Taal Chhapar Sanctuary, Kachchh Wildlife Sanctuary and the Wild Ass Sanctuary in the Little Rann. But, these protected areas consti-

tute just 7.5 per cent of the total desert area in India. The wildlife though is found beyond these protected areas too.

Now for some of my encounters with the wildlife in the desert. The first one pertains to a desert cat which, one fine evening, was looking out from its burrow in the sand. It wanted to come out but a flock of common babblers above the burrow were in a tizzy, giving loud

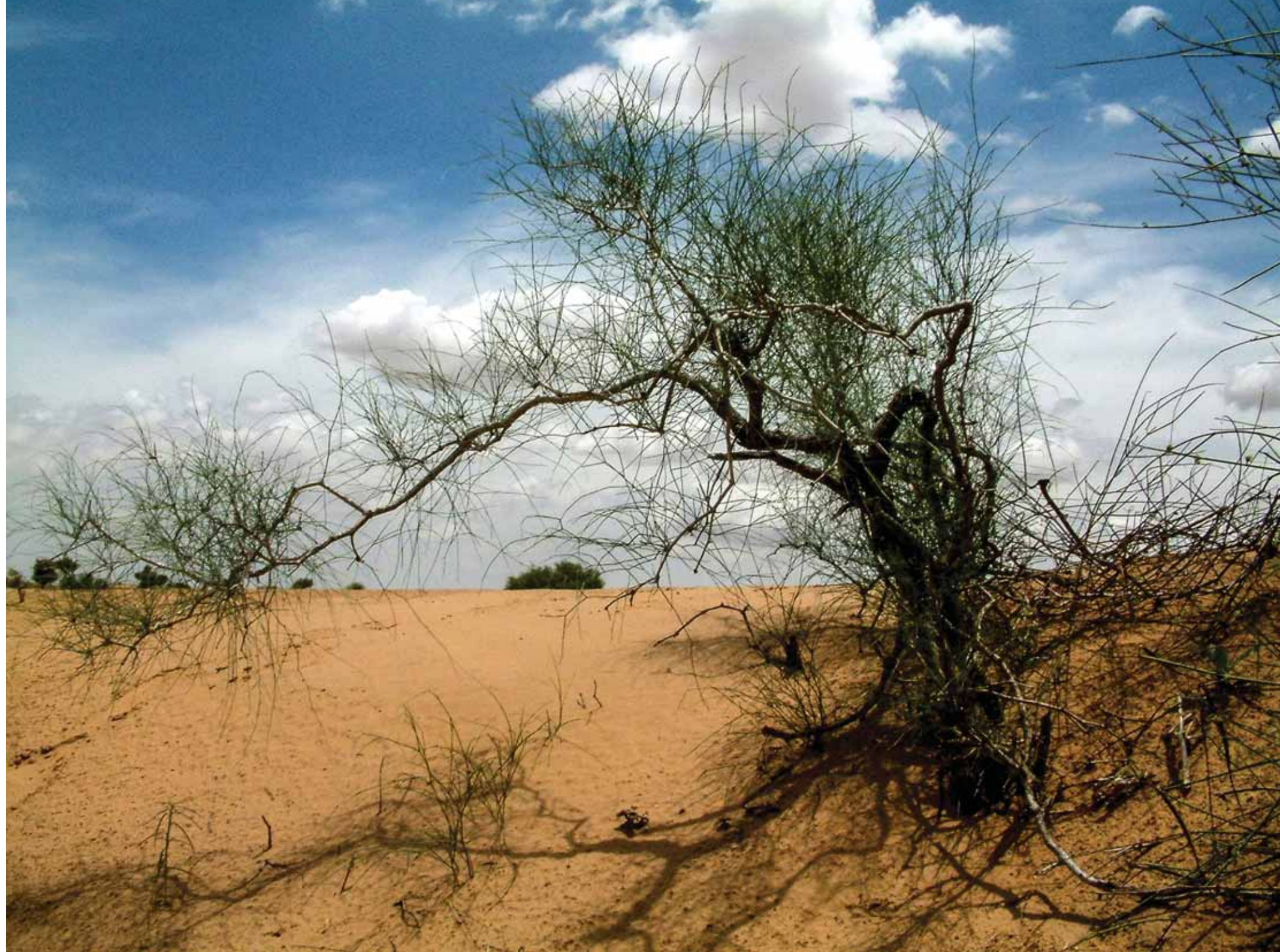
alert calls. The noise was forcing the cat to hide. She was also aware of my presence near her den as my jeep was parked just a few metres away. After some time, the flock left and the cat tried again to come out. But this time, a small bird, rufous-fronted prinia, started calling, bringing the noisy common babblers back. The drama continued for quite some time and I waited patiently for the cat to come

out. When, finally, the birds dispersed, she came out with her tail raised straight. She gave me a good opportunity to click some decent pictures, and yes, I was happy. After a while, she disappeared into the bushes.

Meanwhile, a local person, who was watching me keenly, came up to me and asked why I was spending so much time trying to click a small house cat. But, when I told

him that it was not a domestic cat but a cat included in the same law schedule that covers tigers, and that if anybody kills this small cat the imprisonment is of 7 years – same as in the case of a tiger – he was very excited. He was visibly happy to know that such a rare species was living so close to his village. I am sure he would have shared this information with many people of his village!

The desert shrub caligonum takes root in the Thar





Another small species in this harsh landscape is the Indian desert fox, which has adapted well to the scorching ecosystem where the temperature touches 50 degree celsius and the average annual rainfall is less than 60 mm. These foxes depend on small animals such as rodents for food, but can also feed on desert vegetation for survival. In fact, they often raid desert crops such as melons, desert fruits and berries. During rains, when grasshoppers are attracted to vehicle lights, these foxes pounce upon them in order to gobble them up. But more often than not, they themselves end up as victims of road accidents.

The Thar is also a heaven for serious birdwatchers. During the rainy season every year, about 1,000 juvenile white-eyed buzzards

A chinkara poses in front of a monument (right); one of the best camouflaged birds in the desert, the spotted creeper (below)



A typical landscape of the Thar (far right)





congregate in a small sanctuary – Taal Chhapar. This bird of prey feeds on grasshoppers and small lizards, which are plenty in the area. Interestingly, in these almost 1,000 birds, not a single adult bird has been reported. Also, out of 69 raptor species in India, some 40 are found in this small 8-9 square km big sanctuary.

There was an era when the Bikaner area of Rajasthan was famous for the *shikar* of black bel-

lied sandgrouse, an arid area bird. Huge flocks of this desert bird used to come to the area to drink water. In fact, so huge were the flocks that, according to descriptions, they would darken the sky. The king of Bikaner, in the absence of tigers and other big cats, would use this novelty for organising big hunting parties for the royals and the British to entertain them. In a single day, they were reported to be killing a few thousand sandgrouse.

In time, Maharaja of Bikaner, Ganga Singh, developed good relations with the British and other royalties and hence was successful in planning developmental activities in the region. Today, huge flocks of this bird may not be found, but the graceful grouse are still luring birdwatchers to the area. Spotted, black bellied and chestnut bellied sandgrouse are special birds of the desert.

The Great Indian Bustard (GIB)

is another attraction of the desert. The incredible GIB is the among the heaviest flying birds in the world. A total of 200 GIBs exist in the world today, which means it is clearly on the brink of extinction. The GIB is the apex species of the desert ecosystem and nearly 50 per cent of its population is found in the Desert National Park (DNP), a 3,162 square km area in the Jaisalmer and Barmer districts of Rajasthan. It is a critically

A salt pan in the Rann, the desert region in Gujarat



The elusive desert cat leaves its borrow in search of food (above); a Indian roller takes flight (left)



Desert communities have a frugal lifestyle (right)

The toad-headed agama (right, middle) buries itself in sand to evade predators. The desert monitor lizard (below)



endangered bird species and of late intensive efforts have been taken for the conservation of this bird by the Rajasthan forest department.

Many other species also attract birdwatchers to the area. One worth mentioning is the highly camouflaged and elusive spotted creeper. It lives only on the barks of Rajasthan's state tree, Khejri. It is almost impossible to see it without the help of a well-experienced bird-watcher. The elegant white bellied minivet too is the speciality of the forests surrounding the desert.

Some reptiles too have adapted well to the harsh landscape of the desert. Red-spotted royal snake, black-headed royal snake, Sind awl-headed snake, spectacled cobra, common cat snake, Afro-Asian sand snake, saw-scaled vipers, common and Sind krait, red sand boa, common sand boa and the glossy-bellied racer are the

main snake species of the area. The awl-headed snake is known to bury itself in loose sand and disappear without resurfacing for a long time. I reported this genus of Sind-awl headed snake in 2002 from Churu district for the first time in India.

Many lizards and geckos are also special to this region – they include desert monitor lizard, Sind sand gecko, brilliant agama, toad-headed agama, fringed-toed lacerta, etc. The toad-headed agama too uses the technique of the awl-headed snake to evade predators.

In terms of flora too, the desert has a rich and unique biodiversity. Khejri is a widely distributed tree species and is considered sacred. More than 350 persons from the Bishnoi community martyred themselves to save a small, sacred grove of Khejri trees 300 years ago. Apart from Khejri, there is the

amazing Roheda tree, which dons a startling orange colour when it blooms. You may feel there are many cactus species in the desert, but, in fact, there are no cactus plants in our country. The ones seen are all planted. In the Rajasthan deserts, plant species are thorny, thick and have small-sized leaves, like euphorbia, which hold water. The rubbery thick leaves help the plant to survive in the desert by decreasing loss of water in the hot climate.

However, new agricultural techniques and laying of canals is putting pressure on the native flora today. Also, the forest department too has many times planted exotic species, which will in the long run dominate the habitat.

The most interesting sight in a desert is that of the shifting sand-dunes – miles and miles of dunes that keep changing their form. A

big dune today might look like a furrow the next day, such as the dunes of Chauthan and Sam. To stabilise them, the forest department is planting exotic trees, a strategy which damages the ecology of the land. Deserts in India also have a number of salt lakes – in Rajasthan there is the huge Sambar lake and Pachpadra lake. In neighbouring Gujarat, the salt pans of Kachchh are famous the world over.

So what is a desert? Is it a hot sandy area like Jaisalmer, or the cold mountainous area of Ladakh; is it the dry arid landscape of Barmer, or the water-logged area of Kachchh. Desert is, in fact, an area where there is a scarcity of water. It could be due to less rainfall, porous soil, saline water, or any other reason. Keep this in mind while planning a trip to the desert. ■

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The sand dunes in the Thar (above). These dunes keep on changing shape during the day.

