Oryx

Peaceful coexistence with the urban leopards of the city of Jaipur, India

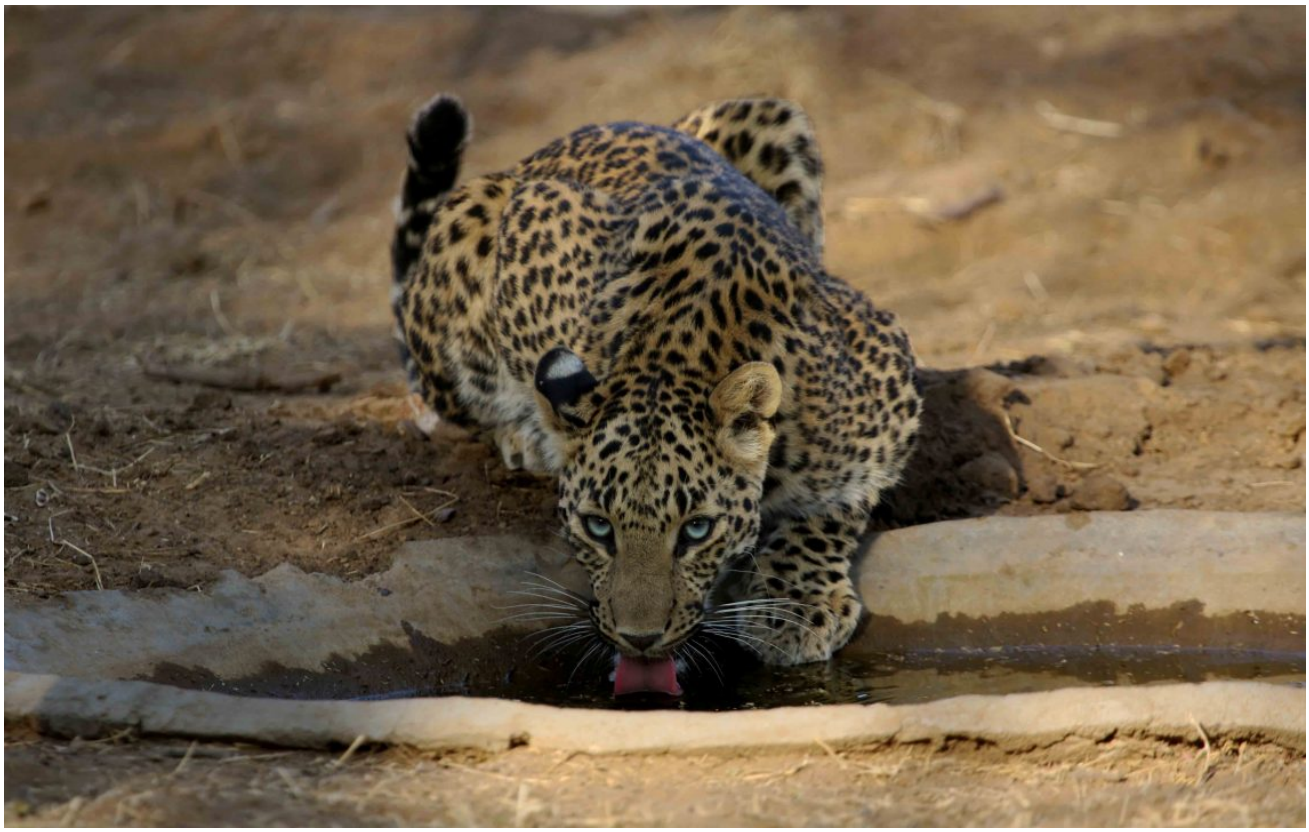
By Swapnil Kumbhojkar, Reuven Yosef & Piotr Tryjanowski, 2nd October 2020

Imagine finding yourself in a car park and spotting a large cat staring at you. At first, you think it must be your neighbour's pet. At second glance however, you're startled to realize it is in fact a wild leopard.

Wildlife, especially leopards, can be spotted across the ever-changing urban landscapes of modern India. The blurred boundaries between forests and cities, and fierce competition for resources, intensifies the potential for negative interactions between people and wildlife. In some cases, however, the influence of the religion and culture of Indigenous people may lead them to respect wildlife, thus reducing mutual animosity and sometimes even leading to peaceful coexistence.

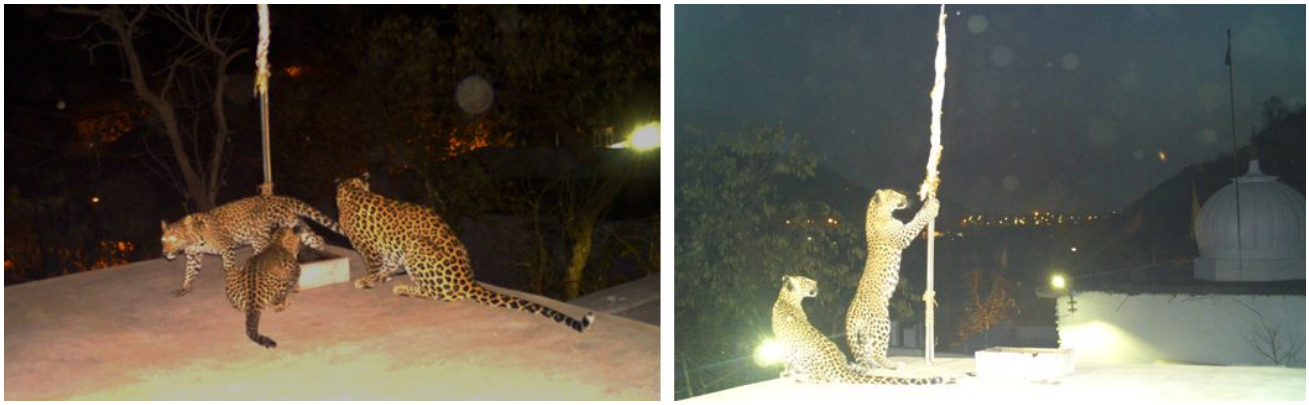
Camera-trap photo of a leopard with Jaipur in the background. Photo: Swapnil Kumbhojkar

The Jhalana Reserve Forest, in north-west India, is a classic example of peaceful coexistence between people and leopards. This 29 km^2 island-forest is surrounded by the city of Jaipur and its population of c. 3.9 million people. The leopard *Panthera pardus fusca* is the apex predator in Jhalana. A former hunting ground for the royal family of Jaipur, Jhalana was declared a Reserve Forest in 2017. In the past, the resources of Jhalana were exploited for traditional livelihood practices such as grazing and firewood collection. The leopard population of Jhalana has persisted, and thrives despite continuous disturbance and anthropogenic activities around and within the forest.



Leopard drinking at a waterhole. Photo: Swapnil Kumbhojkar

Understanding the relationship between the leopards of Jhalana and people is vital for the conservation of these leopards, and for the people who live close to them. In the absence of baseline data, our research investigated the ecology of Jhalana, leopard population dynamics and human–wildlife interactions. The research comprised data collation, community participation and coordination with the Rajasthan Forest Department to implement conservation strategies. A team of international student volunteers, local naturalists and villagers helped us set up camera traps, monitor leopard movement, conduct surveys and raise awareness amongst tourists and Jaipur residents.



Leopard cubs playing in a temple. Photos: Swapnil Kumbhojkar

We identified 25 individual leopards in an area of 29 km^2, one of the highest recorded densities of leopards (0.86 per km^2). This high density demonstrates the adaptability of leopards to anthropogenic changes and suggests there is ample prey in and around the Reserve. Leopards have a broad diet: they will eat freshly-caught prey as well as scavenge on carcasses, and their prey includes amphibians, arthropods, domestic pets and wild ungulates. To determine the diet of the leopards of Jhalana, we analysed their scats for the hair, bones and claws of prey species. Although our analysis identified 13 species in the leopards' diet, the leopards of Jhalana Reserve Forest are almost completely dependent on domestic prey such as dogs, cats and goats.

Leopard feeding close to urban settlements. Photos: Swapnil Kumbhojkar

The leopards consume wild prey within the Reserve, domestic animals in the surrounding areas,

and goats herded illegally within the Reserve. The leopards of Jhalana are potentially providing an ecosystem service to their human neighbours: their eating habits result in Jaipur having one of the lowest rates of dog bites and associated rabies transmission in India.

Knowledge of the dietary requirements of this apex predator will help the relevant authorities design long-term strategies to improve the species' wild prey base and formulate procedures to compensate people for livestock depredation. It is worth noting that no human mortality as a result of a leopard attack has been recorded to date around Jhalana.

Leopards preying on dogs. Photos: left – Rahul Jain, right – Devam Shah

In a human-dominated landscape such as Jhalana Reserve Forest, human–leopard coexistence is fragile. The leopards have coexisted peacefully for decades with the human residents, who respect and empathize with the leopards and the other wildlife of Jhalana. This study contributes towards ongoing monitoring and will help to pre-empt any potential conflict that could arise as a result of the increased sharing of resources between the rising human population and the leopards. The leopards currently show marked tolerance of human activities, with mothers readily observed bringing their cubs to water holes in the presence of tourists. We hope that our research will both help and influence land management practices and the conservation of the urban leopards of Jaipur.

Living in harmony with leopards ENG from Ran Levy-Yamamori on Vimeo.

The article Dependence of the leopard *Panthera pardus fusca* in Jaipur, India, on domestic animals is available in *Oryx—The International Journal of Conservation.*

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