

Field report

Photographic evidence of Indian foxes in western Shivalik region, India

Devavrat Pawar^{1*}, Ananya Sarathe¹, Siddhant Umariya¹, Shweta Sain², I. P. Bopanna¹ and Anil Kumar Singh¹

¹ WWF-India, Rajpur Road, Dehradun 248001, Uttarakhand, India. Email: dpawar@wwfindia.net

² DFO Shivalik Forest Division, Saharanpur 247001, Uttar Pradesh, India.

* Correspondence author

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Abstract

In September 2019, WWF-India along with Shivalik Forest Division officials observed four pairs of Indian foxes (*Vulpes bengalensis*) during a single night in an agricultural field in the western Shivalik region, India. This has been documented as the first photographic evidence of the presence of Indian foxes in the Shivalik Forest Division, Uttar Pradesh, India. Here we report this observation and discuss its conservation importance.

Introduction

India is home to three species of foxes; Indian foxes (*Vulpes bengalensis*), Tibetan foxes (*V. ferrilata*), and red foxes (*V. vulpes montana*; Sillero-Zubiri et al. 2004). Of these, the Indian fox is endemic to the Indian sub-continent, but little is known about its ecological significance and population status. In India, the Indian fox distribution ranges from the Himalayan foothills all the way to the southern tip of the Indian peninsula. It weighs approximately 2.5 kg, has pointy ears and a narrow stout, is crepuscular, and prefers dry open lands with flat to undulating terrain and low tree and shrub cover (Pocock 1936, Prater and Barruel 1971, Johnsingh and Jhala 2004, Vanak 2005). The Indian fox is listed as Least Concern by the International Union for Conservation of Nature (IUCN; Jhala 2016) and, in India, they are protected under Schedule II of the Wildlife (Protection) Act, 1972, under which they are provided with a limited degree of protection (Vanak 2005). Although it is hard to determine their population estimate in the wild, according to the IUCN Red List, their population is said to be decreasing across their geographic range (Jhala 2016). Especially, outside protected areas, the population of Indian foxes is facing increasing threats due to habitat loss and conflict with domestic dogs (*Canis familiaris*).

The Indian Fox is an omnivorous canid and has been reported to feed on a wide variety of food including fruits, reptiles, small mammals, birds, and insects (Johnsingh and Jhala 2004, Maurya et al. 2012). They are relatively tolerant to human presence and, as an opportunistic predator, they can survive in agricultural fields and close to human settlements for easy food access (Johnsingh and Jhala 2004, Vanak 2005, Srivathsa et al. 2020).

This note reports a recent sighting of four pairs of Indian foxes in a non-protected area of the Shivalik Forest Division, confirming the species presence and distribution in the western Shivalik region of India.



Figure 1. Indian foxes observed and documented in Shivalik Forest Division, India.

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Results and Discussion

At ~20:00 on the 9th September 2019, a team comprising of WWF-India and Shivalik Forest Division officials observed four pairs of Indian foxes in an abandoned agricultural field at 30.167468°N, 77.853033°E, 391 msl (Figure 1). The foxes were documented using video camera recordings and photographs. The agricultural field was situated inside the Shivalik Forest Division, approximately 1 km away from the closest village (Figures 2 and 3). The Forest Division constitutes the Shivalik range, which is over 10 million years old and is abundant in fossils. The forest surrounding the field was dominated by teak (*Tectona grandis*; Figure 4). The Shivalik Forest Division harbors other fauna, including Indian leopards (*Panthera pardus fusca*), Asiatic elephants (*Elephas maximus*), sambar deer (*Rusa unicolor*), chital deer (*Axis axis*), barking deer (*Muntiacus muntjak*), blue bulls (*Boselaphus tragocamelus*), Himalayan gorals (*Naemorhedus goral*), Indian crested porcupines (*Hystrix indica*), and Indian wild boars (*Sus scrofa cristatus*). Apart from the Indian fox, other small carnivores such as jungle cats (*Felis chaus*), leopard cats (*Prionailurus bengalensis*), small Indian civets (*Viverricula indica*), masked civets (*Paguma larvata*), palm civets (*Paradoxurus hermaphroditus*), and golden jackals (*C. aureus*) are also present in the Shivalik Forest Division.

The four pairs of Indian foxes were observed frolicking in an abandoned agricultural field. Each pair was located approximately 60–80 m away from one another. Each individual interacted with the other member of its pair, but no interaction between pairs was observed. The foxes may have been hunting in pairs, as they were walking extensively around the entire agricultural field, but we did not observe any successful hunt during the sighting, which lasted for approximately 20 minutes.

Indian foxes are not common in the Shivalik region of India. Few sightings have previously been reported in Rajaji Tiger Reserve and Corbett Tiger Reserve, Uttarakhand, and Valmiki Tiger Reserve, Bihar (unpublished reports). The sighting in Rajaji Tiger Reserve is the closest to the Shivalik Forest Division (Joshi 2016). Sightings of such uncommon species in a certain region are crucial towards understanding the importance of a habitat for said species. Presence of the Indian fox in addition to the existing fauna indicates the rich biodiversity in the Shivalik Forest Division. The Division acts as an important corridor for wildlife movement, dispersal, and migration between Rajaji Tiger Reserve, Uttarakhand, and Kalesar National Park, Haryana.

Previous studies suggest that anthropogenic activities such as hunting and habitat destruction over the years has led to a decrease in the population of Indian foxes throughout their range (Johnsingh 1978, Johnsingh and Jhala 2004, Vanak 2005). Similar issues persist in the Shivalik Forest Division – habitats comprising of river streams and rocky mountains are being exploited for activities such as agriculture and sand and stone mining, bearing negative impacts on the region's wildlife. Additionally, rapid infrastructural development and habitat conversion to agricultural fields and human settle-

ments leave relatively small patches of suitable areas for fauna to survive in the region.

Prior to this report, there were no records indicating the presence of Indian foxes in the Shivalik Forest Division and, to date, no studies have been conducted to determine the status and distribution of the Indian fox in this region. It is possible that they may have been present but were never noticed due to their shy and nocturnal behavior. The photographic evidence presented in this report shall assist the Forest Department in preparing important management decisions and more inclusive conservation plans, especially with reference to the Indian fox and its habitat within the Shivalik Forest Division. Additionally, being an understudied species, the photographic evidence of Indian foxes here opens up opportunities for conducting further studies to ensure that this species does not face local extinction and for preserving their habitat. Detailed research studies to monitor their habitat use and ability to survive under the intense anthropogenic pressure should be conducted to inform conservationists on the ecological requirements and resources utilised by the species in this human dominated region. Additionally, since Indian foxes share their habitat with many other species, research should be conducted to determine the impact of the shrinking native habitat on intra- and inter-species interactions and potential species conflicts.

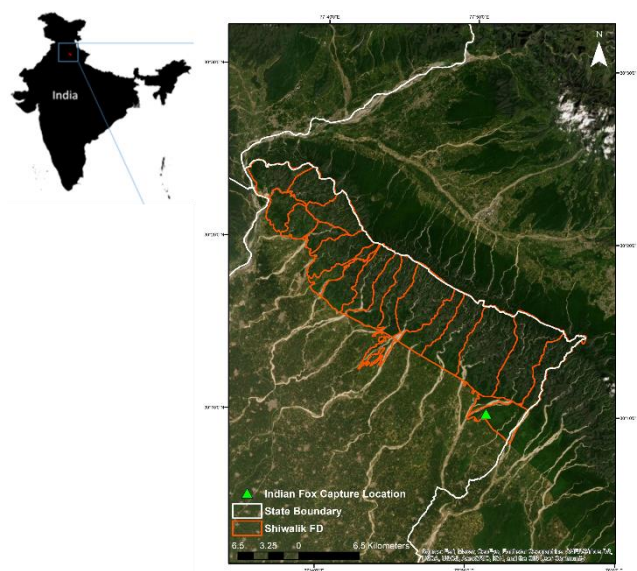


Figure 2. Location where the Indian foxes were observed in Shivalik Forest Division, India.



Figure 3. The abandoned agricultural field in Shivalik Forest Division, India, where the Indian foxes were observed.



Figure 4. Landscape of Shivalik Forest Division, India (S. Umariya).

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Biographical sketch

Devavrat Pawar is a PhD student at the university of Wageningen in the Netherlands. Currently working with large carnivore ecology in the Terai Arc Landscape. Generally interested in conservation of large mammals in an urban landscape.

Ananya Sarathe is a post graduate from the Indian Institute of Forest Management, Bhopal, India, and has done her specialisation in Conservation and Livelihood. She is currently working as a Project Officer on Human Wildlife Conflict in the Terai Arc Landscape of WWF India, Dehradun, India.

Siddhant Umariya is a post graduate in International Business from IITM, Gwalior, India. He is currently working as an Assistant Project Officer in Species and Conservation with Terai Arc Landscape in WWF India, Dehradun, India.

Shweta Sain is currently the Divisional Forest Officer of the Shivalik Forest Division in Uttar Pradesh, India. She overlooks the management and enforcement of the Division.

I. P. Bopanna, PhD, is currently the Landscape Coordinator in the Terai Arc Landscape of WWF India, Dehradun, India.

Anil Kumar Singh, PhD, is the Team Lead at Terai Arc Landscape in WWF India, Dehradun, India. He implements various conversation plans on ground across the landscape.