



Northernmost distribution of Indian brown mongoose (*Herpestes fuscus*)

The Indian brown mongoose, *Herpestes fuscus* (henceforth brown mongoose) is among the six species of mongoose found in India. The species can be distinguished from other species of mongoose by its dark brown fur, black legs and thick, furry and conical tail (Sreehari *et al.* 2013). Brown mongoose has a restricted and disjunct distribution, with two populations of the nominate *H. f. fuscus* in the Western Ghats (Karnataka and Kerala) in Southern India and three other subspecies along the western coast of Sri Lanka (Mudappa & Jathanna 2015). In southern India, Brown mongoose has been recorded in wet evergreen forests of the Western Ghats from altitudes ranging between 450 to over 2,000 m a.s.l. (Mudappa & Jathanna 2015). Recently it has been recorded from Tadoba-Andheri Tiger Reserve, about 160 km south of Pench, also in Maharashtra (Chaoji 2020).

The species has been reported from tiger reserves, tea plantations, hills and grasslands (Sreehari *et al.* 2016) as well as from rubbish dumps close to human habitation in Southern India (Mudappa & Jathanna 2015). Brown Mongoose is presumed to be crepuscular; being active during the twilight times around dusk and dawn as suggested from the images captured through camera traps from the Western Ghats (Sreehari *et al.* 2016). The species prefers isolated life in dense forest habitats. They breed in burrows in densely packed rock piles.

The brown mongoose was listed as Vulnerable in the IUCN Red List of Threatened Species in 2008 but later was shifted to Least Concern in 2015, based on frequent sightings and camera trap records. It was captured in the camera traps deployed within the Pench Tiger Reserve (PTR), Maharashtra. PTR falls in the Nagpur District of Maharashtra State. Pench National Park was declared in 1975 and was subsequently assigned as the 25th tiger reserve of India in 1999. It is an undulating landscape

within the Central Deccan Plateau Dry Deciduous Forest eco-region (Olson *et al.* 2001) dominated by mixed forests of Anjan (*Hardwickia binata*), bitter albizia (*Albizia amara*) and teak (*Tectona grandis*).

Camera trapping in the entire PTR is carried out every year as a part of the Phase IV tiger monitoring exercise for counting the number of tigers in the reserve. The entire tiger reserve is divided into grids of 2 km² and each grid is deployed with a set of camera traps. During the analysis of camera trap data for the year 2020, we came across a few pictures of brown mongoose in PTR. This is the first time that the species has been recorded in a camera trap in Pench. Five pictures were obtained, all from a single camera trap located in the Saleghat East beat of Nagalwadi Range in PTR (21°32'05.25"N, 79°02'12.18"E; alt. 398 m a.s.l.), which constitutes the buffer area of the reserve. The camera trap was installed on a forest trail that is regularly used by forest staff and local people.

We obtained pictures on two different days: 10th and 12th of February 2020. The time of capture was in the evening hours on both days (16:37 h and 17:26 h respectively). A single individual was captured (Fig. 1) in each picture. Out of total 305 camera traps deployed for over 27 days no other individual was recorded in the approximately 600 km² study area. Although this confirms the presence of the species in PTR, the abundance and distribution remain unknown. Other mongoose species that have been found in PTR include Indian grey mongoose (*Herpestes edwardsii*) and ruddy mongoose (*H. smithii*), which were photo-captured frequently in the reserve.

The present record appears to be the northernmost distribution of the species in tropical dry deciduous forests. The average annual temperature ranges from 10 to 46°C with average annual rainfall about 1,100 mm. The present habitat appears to be a safe abode for the species as it is part of a tiger reserve, which is a highly protected and regularly monitored area.

Further studies are needed to understand its abundance and other population parameters in the reserve.



Figure 1. A camera trap image of brown mongoose from Pench Tiger Reserve, Maharashtra, India

There is no confirmation that this species occurs in other types of habitats except dense evergreen forests and in adjacent human-modified areas like tea and coffee plantations in the Western Ghats. Recent reporting from the Tadoba-Andhari Tiger Reserve and now from the PTR confirms that this species is occupying much drier habitats different from its earlier reported habitats in the Western Ghats and that the species can occupy a wider ecological niche. Raman *et al.* (2020) predicted a decrease in range of the Brown Mongoose in the Western Ghats with climate change due to a projected increase in temperature variability and increase in precipitation. Our findings suggest a more positive outcome for this species.

Literature cited

- Chaoji, A. (2020). Brown mongoose in Tadoba-Andheri Tiger Reserve. *Zoo'sPrint*, 35(4): 6–7.
- Mudappa, D. and D. Jathanna (2015). *Herpestes fuscus*. *The IUCN Red List of Threatened Species* 2015:e.T41612A45207051.
- Olson, D.M., E. Dinerstein, E.D. Wikramanayake *et al.* (2001). Terrestrial ecoregions of the world: a new map of life on Earth. *Bioscience*, 51(11): 933–938.
- Raman, S., T.T. Shameer, R. Sanil *et al.* (2020). Protrusive influence of climate change on the ecological niche of endemic brown mongoose (*Herpestes fuscus fuscus*): a MaxEnt approach from Western Ghats, India. *Modeling Earth Systems & Environment*, 6(1): 1795–1806.
- Sreehari, R., C.T. Fredy, R. Anand *et al.* (2013). Recent records of ruddy mongoose *Herpestes smithii* and brown mongoose *H. fuscus* from Kerala, southern Western Ghats, India. *Small Carnivore Conservation*, 49: 34–36.
- Sreehari, R., S. Das, M. Gnanakumar *et al.* (2016). Recent records and distribution off the Indian brown mongoose *Herpestes fuscus* Gray, 1837 (Mammalia: Carnivora: Herpestidae) from the southern Western Ghats, India. *Journal of Threatened Taxa*, 8(11): 9367–9370.

Submitted: 29 May 2022, Accepted: 29 Oct 2022
Section Editor: Lee Harding

N. Singh^{1,2}, R. Govekar¹ & A. Pathak¹

¹ Pench Tiger Reserve, Nagpur, Maharashtra
440001, India

² E-mail: nishanicky1210@gmail.com