

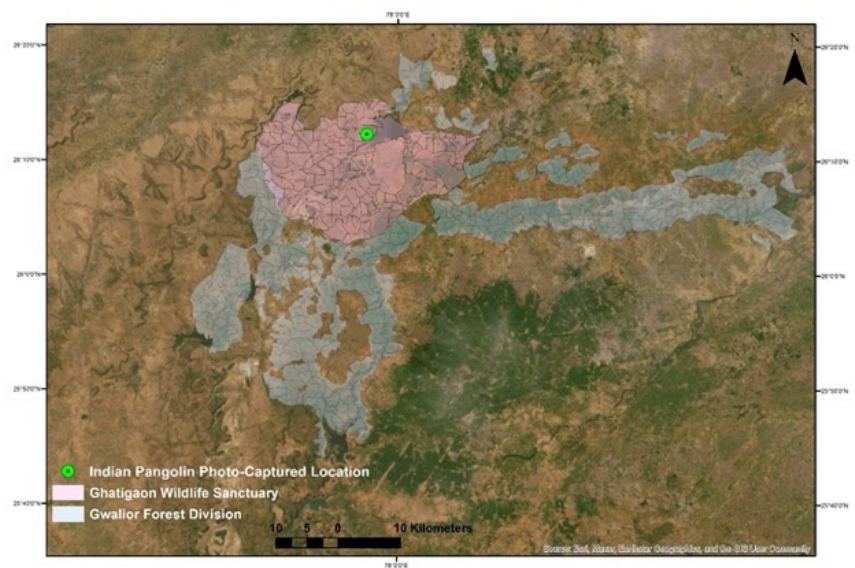


Photographic evidence of Indian Pangolin from Gwalior Forest Division, Madhya Pradesh, India

The Indian Pangolin *Manis crassicaudata* otherwise known as the Thick-tailed Pangolin, is an average-sized insectivore manid native to southern Asia (Mahmood et al. 2020). Pangolins comprise eight living species globally, with two found in India: The Indian Pangolin and the Chinese Pangolin *Manis pentadactyla* (Kumar et al. 2016). Despite its significance, little research has been conducted on Indian Pangolins. The species is classified as Endangered on the IUCN Red List of Threatened Species throughout its distribution ranges (Mahmood et al. 2020). However, specific studies conducted locally suggest the Indian Pangolin is Endangered in Nepal (Jnawali et al. 2011), Vulnerable in Pakistan (Sheikh & Molur 2005), and Near Threatened in Sri Lanka. Its population is rapidly declining due to illegal hunting and poaching for its meat, scales, and other products (Mahmood et al. 2020). Legal protection is provided for the Indian Pangolin under Schedule I of



Photo capture of Indian Pangolin from GFD. © Devavrat Pawar.



Map of Gwalior Forest Division highlighting the area where the Indian Pangolin was photo captured.

the Indian Wildlife (Protection) Act 1972, as well as in Appendix I of CITES, which prohibits international trade in the species (CITES 2017).

The species is widely distributed across parts of eastern Pakistan, and the Indian subcontinent and extends south to Nepal,



Habitat of Gwalior Forest Division. © Udayan Rao Pawar.

Sri Lanka, and Bangladesh (Srinivasulu & Srinivasulu 2012). In India, these elusive mammals can be found from the Himalayan foothills to the south of the country, excluding the far north and northeast (Tikader 1983). Due to the pangolins' adaptive nature, the species inhabits a wide range of diverse habitats, including natural forests, timber plantations, grasslands, plains, hilly areas, and agricultural lands near human settlements (ZSI 2002). The opportunistic mammal feasts primarily on insects and termites, using its olfactory senses to trace and its elongated saliva-coated sticky tongue to draw in the prey (Mahmood et al. 2020). The nocturnal species naps during the daytime, curling up itself into the burrows excavated using their sharp claws (Mahmood et al. 2020). Historical anecdotal accounts have mentioned the presence of Indian Pangolins in the region. Incidents of illegal wildlife trade related to pangolins have also been recorded from the Gwalior region. On May 2016, in Gwalior, Madhya Pradesh, three poachers were apprehended with several kilograms of rare Pangolin



body parts (Wildlife SOS 2016). While previous literature indicates the presence of Pangolins in Gwalior (Saxena 1986), this camera-trap image of the Pangolin is, to the best of our knowledge, the first documented photograph within the region. The results presented in this report could provide significant supporting data indicating the existence of Indian pangolins within the Gwalior Forest Division.

Study Area and Photo Capture Event

The photograph of the Indian Pangolin was captured during a camera trap survey conducted opportunistically by the Gwalior Forester's Society. Two camera traps were strategically placed in the forest for one month (March 2023). The placement site for the cameras was chosen strategically, considering the results of prior sign surveys, to optimize the probability of capturing the diverse wildlife in the area.

The Gwalior Forest Division (GFD) encompasses a land area of around 2,150 km² along the Agra-Mumbai Road and is located at an elevation ranging from 132–443 m. The GFD serves as a significant wildlife corridor facilitating the movement of various animals, including tigers *Panthera tigris*, leopards *Panthera pardus*, Sloth Bears *Melursus ursinus*, and more. It is interconnected with Kuno National Park and Madhav National Park, enhancing ecological connectivity and facilitating the conservation of these species (Pawar et al. 2022). The northern and southern dry deciduous forests region is dominated by tree species like Dhau *Anogeissus pendula*, Salaiya *Boswellia serrata*, and Palash *Butea monosperma*.

The camera trap was positioned in a mixed

forest where *Anogeissus pendula* is the dominant species. One Indian Pangolin was photo captured in one out of the two camera traps during the study period. The camera traps captured various mammalian species. These include the Striped Hyena *Hyaena hyaena*, Indian Jackal *Canis aureus*, Wild Boar *Sus scrofa cristatus*, Chital *Axis axis*, Blue Bull *Boselaphus tragocamelus*, Four-horned Antelope *Tetracerus quadricornis*, Indian Hare *Lepus nigricollis*, Ruddy Mongoose *Herpestes smithii*, and Indian Crested Porcupine *Hystrix indica*.

This study serves as the first photographic evidence of the Indian Pangolin in GFD, MP. Recent advancements in camera trapping techniques have provided valuable insights into the distribution and presence of shy and endangered species, including the Indian Pangolin. However, research on this species remains limited, and comprehensive studies are necessary to develop effective conservation plans and strategies across its entire range, including the GFD. The Indian Pangolin is highly threatened by poaching due to the growing demand in the trade market (Mahmood et al. 2020). It is crucial to take proactive measures to combat hunting and disrupt the trade supply chain associated with this species.

Currently, the population size of Indian Pangolins is unknown in the GFD region, emphasizing the need for further research to better understand their distribution, population dynamics, and the threats they face. The first photographic record of pangolins in a specific area highlights the importance of intensive camera trapping surveys to assess their distribution and obtain reliable density estimates.



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