

Mongabay Series: Beyond Protected Areas

Small and lesser studied mammals of the Western Ghats need more attention

by Rishika Pardikar on 30 November 2020

- *The Western Ghats are home to rich biodiversity and endemism. But given India's proclivity for charismatic mammals like tigers, elephants and rhinos, smaller species like mongooses, dholes, rodents are understudied and therefore neglected in conservation action.*
- *An off-shoot of the neglect of smaller-bodied mammals and less-charismatic species is that their threats are also under-assessed. Some of the biggest threats likely*

include habitat modification via plantation activities and climate change.

- *Experts have proposed an ecosystem-based model where the ecosystem is the umbrella, not the species that live in it.*

Protected areas in India's Western Ghats prominently feature as top destinations for tiger and elephant ecotourism and in conservation action. But the biodiverse-rich region traversing India's southern and western states is home to a wide variety of "neglected" smaller-bodied animals in diverse landscapes beyond these notified wildlife refuges, which demand greater attention and action.

The Western Ghats are a chain of mountains (<https://whc.unesco.org/en/list/1342/>) running parallel to India's western coast, approximately 30-50 km inland, the Ghats traverse the states of Kerala, Tamil Nadu, Karnataka, Goa, Maharashtra and Gujarat. and are a UNESCO World Heritage site. A "significant characteristic of the Western Ghats is the exceptionally high level of biological diversity and endemism. This mountain chain is recognized as one of the world's eight 'hottest hotspots' of biological diversity along with Sri Lanka," notes its description on the World Heritage list.

Small mammals and less or non-charismatic species such as rodents, bats, brown mongooses, jungle cats and dholes are understudied and threats remain under-assessed even as studies project significant changes in their habitats from climate change. Often, forest departments receive more requests to study wildlife inside than outside PAs.

"This (small mammals) is a neglected group in terms of both studies and conservation action," said wildlife biologist P. O. Nameer, while biologist Sanjay Gubbi cautioned that "we are perhaps losing habitats without even

knowing the distribution of many species [e.g small mammals]."

For example, rodents constitute almost 50 percent of global mammalian diversity; small mammals constitute the largest percentage of mammalian diversity and this is true in the Western Ghats, in Kerala and even in India [as a whole], said Nameer, who heads the Centre for Wildlife Studies, College of Forestry, Kerala Agricultural University.

A 2001 paper (https://www.researchgate.net/publication/228478369_Mammals_of_Western_Ghats_A_simplistic_overview) by Nameer highlighted that 28 percent of threatened mammals in the region are insectivores, bats and rodents. The paper also said that small mammals constitute about 66.5 percent of mammals and 62.5 percent of endemic mammals in the region. The paper said small mammals constitute 74 percent of the Data Deficient category of mammals of Western Ghats.

Conversation 1 Com



Open grasslands help herbivores like the chinkara spot predators and escape easily. Photo by Chinmayisk/Wikimedia Commons.

Apart from developmental activities like roadways and railways, habitat modification via unscientific plantation activities also poses threats to small mammals in non-forested habitats. This threat is unique to wildlife in relatively dry habitats like grasslands, woodland savannahs as such areas are generally considered 'degraded' or as 'low-

**Read more: How wildlife
outside protected areas
responds to climate
extremes
(<https://india.mongabay.com/2020/11/how-wildlife-outside-protected-areas-responds-to-climate-extremes/>)**

quality forests' that require greening. Habitat modification from afforestation activities in chinkara habitats in Karnataka is one example. Gubbi, a senior scientist with the Nature Conservation Foundation, documented the presence of large numbers of chinkaras in Bukkapatna's woodland savanna habitats, the second habitat (<https://www.deccanherald.com/state/chinkara-sanctuary-notified-in-tumakuru-district-734454.html>) of chinkaras in Karnataka which is also the southernmost limit of the species in India. This work led to the area being notified as a wildlife sanctuary. However, this protected habitat, said Gubbi, has been modified by the forest department through afforestation activities, including the plantation of non-native plant species. Similarly, plantation activities carried out (<https://india.mongabay.com/2020/09/peninsular-india-close-to-losing-its-last-remaining-great-indian-bustards/>) in the Siruguppa region of Ballari district in Karnataka resulted in disturbances to such an extent that great Indian bustards (GIBs) abandoned the area. This is because GIB are habitat specialists and, so unlike tigers and elephants, do not easily adapt to changes in habitat.

In government documentation and among general public discussions, grasslands are often tagged as 'degraded' or 'low quality forest'. Particularly, once grasslands are tagged as wastelands (as in the Wasteland

Atlas (<https://dolr.gov.in/documents/wasteland-atlas-of-india>) they are prone to diversions to developmental activities. The other big threat is poaching. Foxes, civets, jungle cats and mongooses are heavily poached for meat consumption and their by-products.

As for specifics regarding canids, the spread of diseases by domestic dogs is an existential threat. "Fox, [golden] jackal and wolf populations in India have been decimated by the spread of canine distemper virus and there are also other issues like [wildlife] harassment and displacement that domestic dogs cause," Abi Vanak of Ashoka Trust for Research in Ecology and the Environment pointed out.

For species such as the brown mongoose, that inhabits evergreen forests, high altitude shola forests and adjoining tea and coffee plantations in the Western Ghats, climate change threatens (<https://link.springer.com/article/10.1007/s40808-020-00790-1>) to turn a large extent of its habitat unsuitable for living.

An October 2020 paper (<https://link.springer.com/article/10.1007/s42965-020-00114-5>) showed that Salim Ali's fruit bat, an endangered species endemic to the western ghats is at risk of losing all of its highly suitable habitat to climate change.

Authors also pointed out that the species is a "non-charismatic" one where "research on its ecology is rare with the actual distributive ranges remaining indefinite to date."

Vanak explained that most agricultural landscapes in India whether in Karnataka, Maharashtra or Andhra Pradesh and especially hilly tracts with rocky boulders "have at least 7-8 species of carnivores like Indian foxes, [golden] jackals, wolves, jungle cats, rusty-spotted cats, civets, mongooses, hyenas."

While mega vertebrates like tigers, rhinos and elephants are considered 'umbrella species' for conservation, this model fails because "it ignores ecological realities, only focuses on

forested areas, and fails to conserve species that live in other habitats," said Vanak. A better model would be ecosystem conservation where "the ecosystem is the umbrella, not the species that live in it," Vanak suggested. This though would require systematic changes.

Many wild canid and hyena habitats in non-PA and non-forest areas are not even recognised for their ecological and conservation importance. This despite foxes, wolves and hyenas being largely resident outside PAs.

"Our research shows that the dhole is the only wild canid in India that is highly forest-dependent," said Arjun Srivathsa, Research Associate, Wildlife Conservation Society – India and member, IUCN SSC Canid Specialist Group and IUCN Dhole Working Group.

Karnataka harbours dholes, Indian wolves, Indian foxes, golden jackals and striped hyenas. Srivathsa and team also found that Karnataka also holds one of the highest potentials for the conservation of canids like dholes, jackals, foxes, and wolves and hyenas alongside other states like Madhya Pradesh, Odisha and Chhattisgarh.

"There is a need to conduct extensive surveys across both Western and Eastern Ghats on small mammals," said Shyam Talmale, Scientist, Western Regional Centre, Zoological Survey of India, Pune. Talmale's work focuses predominantly on small mammals like bats, rodents and shrews.

Research on bats is "fairly adequate", he said, but "rodents and shrews still need extensive surveys and studies." "These are nocturnal and their habitats are burrows, so sightings [for surveys] are difficult," Talmale explained, highlighting a hurdle in small mammal studies. An offshoot of such research being sidelined is that issues like conflict are also understudied and therefore not recognised. Forest departments are still reluctant to provide ex-gratia relief to damages caused by

small mammals. Many farmers who suffer losses due to macaques or langurs aren't paid any amount, Gubbi said.



Striped hyena in the savannas of Maharashtra. Photo by Abhijeet Kulkarni.

Other small mammals like jungle cats raid poultry, grizzled giant squirrels in Tamil Nadu cause damage to coconut, mango and jackfruit harvest and porcupines affect coconut trees.

"Such losses can be reduced by understanding the behaviour of the animal and mitigation measures," Gubbi suggested, adding that there is a need for emphasis on research and finding on-ground, implementable solutions.

"One of our funding sources are projects like Project Tiger and Project Elephant," explained Ajai Mishra, Principal Chief Conservator of Forests (Wild Life), Karnataka forest department. "These projects helped conserve tigers and elephants and other herbivores and the forest ecosystem but yes, there is no focus on small mammals like bats – their colonies are largely outside PAs – or even other large mammals like gaur," Mishra added. In fact, Mishra pointed out, "we get more requests to study wildlife inside than outside PAs."

Speaking about constraints of the research community, Srivathsa explained that research on large charismatic species like tigers and

elephants “has become more institutionalised so it generally begets better funding, more traction with government agencies and larger press coverage.”

“If we go beyond PAs (protected areas) and the charismatic PAs, there’s a lot more to study and find,” said Gubbi. For instance, Nagarahole Tiger Reserve is about 800 sq km but the entire Kaveri-MM Hills landscape, including Biligiri Rangaswamy Temple (BRT) Tiger Reserve, is about 2,600 sq km.

The 2017-31 National Wildlife Action Plan (https://wii.gov.in/images/images/documents/national_wildlife_action_plan/NWAP_Report_hi_Res_2017_31.pdf) (NWAP) offers hope to the conservation of small mammals and non-charismatic species.

According to the document, status surveys of data deficient species and the threats faced by them has to be carried out and published.

“This, I hope, will bring in attention to small and/or lesser-known species conservation,” Gubbi said. The plan also addresses the need to integrate climate change in wildlife planning by promoting climate change-specific research.

Banner image: Golden jackal in an agricultural landscape. Photo by Abi Vanak.

Article published by sahana

Your Username

 Log In

Your Username

What do you think?



Sort by **Best** ▾

Sridhaar



2 days ago

We should create separate ministry at centre level exclusively for Western ghats to preserve ghat and all animals,bio diversity sothat we should preserve for our future world.

Reply  3 