

INDIA HOME TO BOTH SPECIES OF RED PANDA, SAYS ZSI STUDY

Relevant for: Environment | Topic: Biodiversity, Ecology, and Wildlife Related Issues

Himalayan Red Panda (*Ailurus fulgens*) | Photo Credit: [DST INSPIRE Red Panda Project](#)

A couple of recent scientific publications by the Zoological Survey of India (ZSI) have resolved the mystery on the demography and speciation in red panda (*Ailurus fulgens*), one of the most iconic species in terms of its importance relating to global conservation.

Scientists from the ZSI have concluded that India is home to both the (sub) species — Himalayan red panda (*Ailurus fulgens*) and the Chinese red panda (*Ailurus styani*) and the Siang river in Arunachal Pradesh splits the red panda into these two phylogenetic species.

The red panda was considered a monotypic species till 2020 until the scientists studied its genetic make-up with respect to the geographical distribution and described the occurrence of the two species.

“This study provides pragmatic genetic evidence and demonstrates the Siang river as a potential boundary of species divergence in red panda by contributing samples from Indian Himalayan Region,” Mukesh Thakur, scientist from the ZSI said. Dr. Thakur is also the author of the paper “Siang River in Arunachal Pradesh splits red panda into these two phylogenetic species” published last week in the *German Society of Mammalian Biology*.

For this study, scientists of the ZSI intensively carried out field sampling in eastern Himalayas for three years and collected over 250 faecal samples of the red panda. Dr. Thakur said the analysis carried out from such samples collected from West Bengal, Sikkim and Arunachal Pradesh revealed the clustering of all the samples in two major group.

The clade 1 represented the Himalayan red panda which was formed by the samples originated from the north West Bengal, Sikkim and central and western Arunachal Pradesh and South Tibet, located in the west of the Siang river. Clade 2 represented the Chinese red panda with samples originated from the Dibang valley of eastern Arunachal Pradesh, India and southwest China, in the east of the Siang.

Dr. Thakur, who is a DNA expert and also the principal investigator of the INSPIRE Faculty project on red panda funded by the Department of Science and Technology, and another scientist Lalit Sharma, head of the wildlife section of the ZSI, are also trying to map the potential corridor supporting the movement of the red panda across the eastern Himalayas.

Another publication titled “Geological and Pleistocene glaciations” explains the demography and disjunct distribution of the red panda (*A fulgens*) in the eastern Himalayas which reveals the demographic history of the red panda in the entire eastern Himalayan region. According to Dr. Thakur, the species divergence time is about 0.30 million years ago (CI 0.23–0.39 MYA) corresponding to the middle-late Pleistocene transition.

“The Himalayan red panda was relatively affected more during the Pleistocene glaciation and experienced a severe reduction in the population size when compared to the Chinese red panda,” he said. He said the reason for the reduction in the population size of the Himalayan red panda is due to the geological and climatic oscillations as the landscape was exposed to heavier

topographic and geological changes through repeated cycles of the wet and dry periods during the last glacial maxima and Pleistocene Era.

Though it is considered an indicator species for ecological change, the red panda is shy, solitary and arboreal animal. It primarily feeds on bamboo and avoids human presence. Highlighting the significance of these publications, Kailash Chandra, Director of the ZSI, said the overall conservation of this ecologically sensitive species required an effort from both the national and international stakeholders and adequate awareness among the local communities.

“The scientists of the ZSI are trying to extend the scope of the research and replicate studies in collaboration of other range countries like Bhutan, Nepal and China. The results will help in proposing long term monitoring and conservation,” Dr. Chandra said.

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