

WILDLIFE FORENSICS HELPS CAUSE OF PANGOLINS

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

Developing protocols: Indian and Chinese pangolins are both endangered, therefore, it is important to identify species and the number poached. | Photo Credit: [Forensic Science International](#)

Pangolins, despite being listed in Schedule I of Wildlife (Protection) Act, 1972 continue to be the world's most trafficked mammal. The primary demand for its scales in the making of traditional East Asian medicines has led to an estimated illegal trade worth \$2.5 billion every year. To enforce the appropriate national and international laws and to track the decline of the species, researchers of Zoological Survey of India (ZSI), Kolkata, have now developed tools to tell apart the scales of Indian pangolin (*Manis crassicaudata*) and Chinese pangolin (*Manis pentadactyla*).

They characterised the morphological features and investigated genetic variations between the two species by sequencing 624 scales of pangolins and comparing the sequences with all eight pangolin species. Based on the size, shape, weight and ridge counts on the scales, the team was able to categorise the two species.

“These simple morphological characters can be easily measured by the use of a simple Vernier caliper. These metric characters will be of immense utility for the law enforcement agencies for taking spot decision during larger seizures,” says Mukesh Thakur, lead author and the Coordinator of Wildlife Forensic Facilities at ZSI. The results were recently published in *Forensic Science International*.

He explains that when scales are confiscated, the wildlife officers just weigh and estimate how many pangolins might have been killed. “This needs revision as the dry weight of the scales from one single mature Chinese pangolin is roughly about 500 to 700 grams. However, in the case of Indian pangolin it goes up to 1.5 kg to 1.8 kg,” explains Dr. Thakur.

“Studies have shown that between 2000 and 2019, an estimate of about 8,95,000 pangolins was trafficked globally, which mainly involved Asian and African pangolins. This has led to a drastic decline of the species. According to the International Union for Conservation of Nature, Indian pangolins are endangered and the Chinese pangolins are critically endangered. Therefore, it is important to develop protocols that can readily identify species and the number of individuals poached in seizures,” explains first author Prajnashree Priyambada, a PhD scholar at the University of Calcutta.

“Though the Chinese pangolin is distributed mostly in Vietnam, Thailand, Cambodia, the northeastern part of our country is also its home. The population is already limited as it has a limited geographical range, low fecundity with just one offspring a year. It is also facing pressure due to habitat degradation and is prone to local extinction,” adds Dr. Thakur.

“We have been conducting training and skill-building workshops for the law enforcement agencies like various officials of forest department, police, revenue department and wildlife crime control bureau and this method of identifying scales will also be demonstrated soon. Forest guards, customs officials or the airport authority when they undertake search and seizure don't have much of a clue about identification. This study has laid out the methods to take a spot decision, which is crucial to prosecuting the case in the court of law,” adds Dr. Thakur.

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Some genes inherited from Neanderthals help defy the virus, others carry a risk of getting critically ill

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