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Sichuan Takin: Sichuan Province, China

Migration Description

Elusive and rare, the Sichuan takin is one of the world's least-studied migratory ungulates. Initial research has revealed seasonal movement patterns and habitat preferences for this mysterious species. In Sichuan, one of the species' remaining population centers, takin persist in a mosaic of protected areas established to protect the giant panda. There, they thrive in mature forests with bamboo understory. In these temperate mountains, takin undertake two migration cycles throughout the year that are unique among other mountain ungulate species. In spring and autumn, the animals migrate in small groups or alone to lower elevation areas near 1,500m, likely to take advantage of specific plant growth and forest types. As spring turns to summer, takin form larger herds as they migrate to alpine meadows at 3,000m, the highest part of their range in the mountains at tree line. When the frost arrives, takin migrate first down to the river bottoms before returning to a mid-elevation forest zone where they feed on bamboo understory throughout the winter. When spring returns they move to track the progression of spring green up towards the high meadows once more. More research is needed to understand the full scope of the takin's migrations in Sichuan, and elsewhere in the species' global range.

Threats to Migration

Because the takin is not well-studied, there are significant gaps in the scientific community's understanding of the threats facing the species and the remaining populations in Sichuan. Evidence suggests the takin requires access to large elevational gradients when moving in response to seasonal changes and changing plant phenologies. As urban centers and agriculture expand in the region, the takin face habitat loss and disturbance from human presence and development. Habitat fragmentation makes it difficult to maintain population-level connectivity across the range, limiting dispersal and movement opportunities for takin. Additionally, illegal killing and unregulated harvest have kept numbers low, especially outside of protected areas where regulations are difficult to enforce. Climate change may also pose a challenge for migratory takin, as plant communities shift higher in elevation with rising temperatures. Additionally, takin numbers in the wild may have been drastically overestimated, making it urgent for managers and conservationists to bolster monitoring efforts and potentially update the species' conservation status.

Local Population Facts

Migration

Elevational



Short 4.9 km (avg.)

Threats



Climate change



Energy dev.



Urban sprawl



Linear barriers



Agriculture



Livestock



Illegal killing



Other

Species Facts

Common name: Sichuan takin

Species name: *Budorcas taxicolor tibetana*

Range: Fragmented ranges in the eastern Himalayas of China

Diet: Herbaceous plants, bamboo, and other woody browse

Global population: Unknown

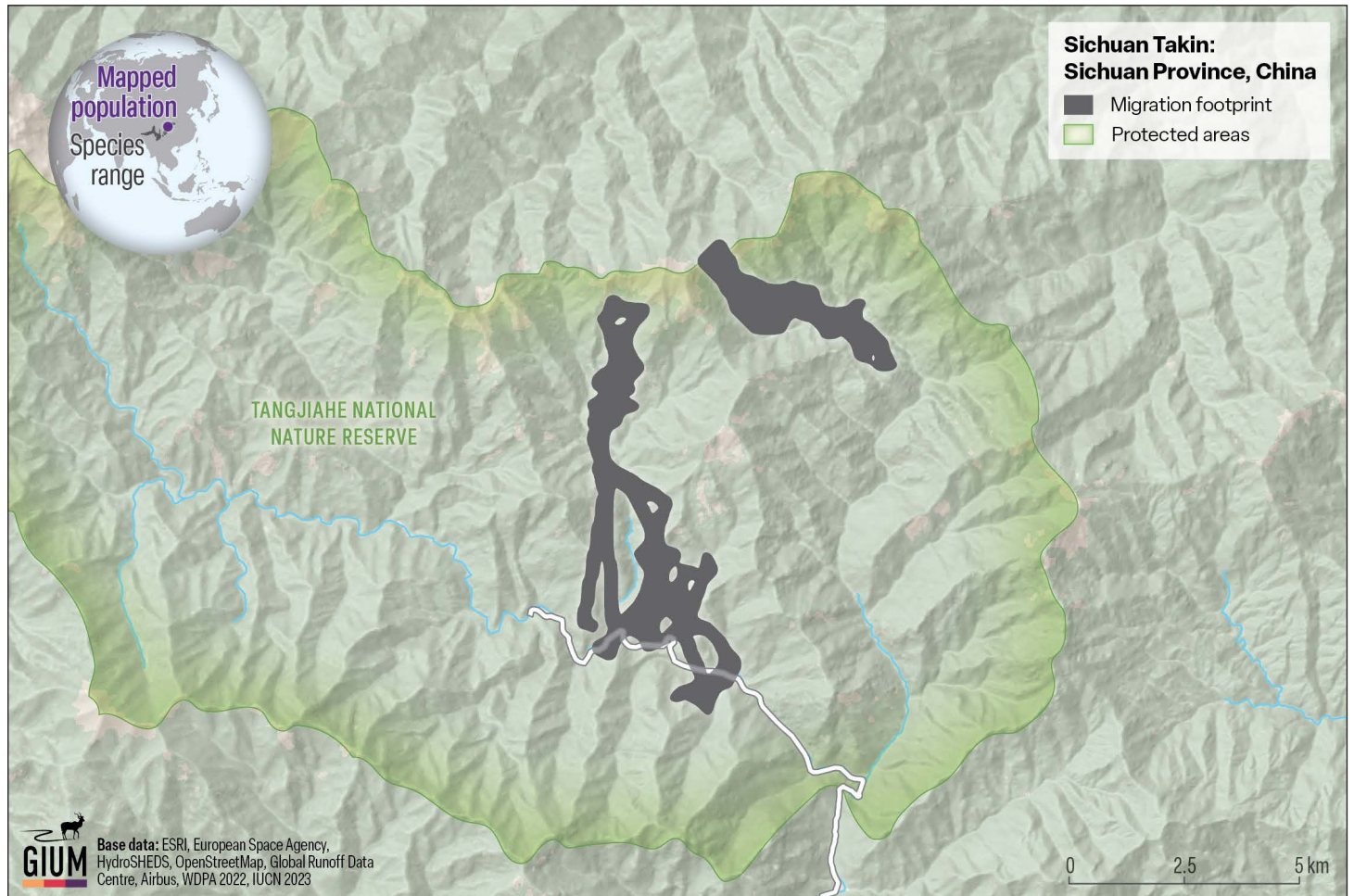
IUCN Conservation Status

VU Vulnerable

CMS Status

Not listed

Sichuan Takin Migration



Mid elevation forests		Downhill migration	Low elevation valleys	Uphill migration	High elevation alpine meadows / forest		Gradual downhill migration to low elevation		Uphill migration		
Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec

Study Information

Sample size

7 individuals (3 migratory individuals with 17 migratory sequences)

Relocation frequency

8–24 hours

Project duration

4 years, 2006–2010

Data Analysis

Models derived from

line buffer (300m width)

Route Summary

While the migratory movements of Sichuan takin in this area are relatively short in distance, the vertical movements undertaken by the animals can span impressive elevational ranges, with animals moving between altitudes of 1500 to 3000m. The expressed movements are complex and often characterized by two annual altitudinal migration cycles occurring between lower elevation forested areas and higher elevation areas at the tree line.

Data Providers

Data collection was led by Tianpei Guan of the Southwest Minzu University in China with the support of William J. McShea of the Smithsonian National Zoo and Conservation Biology Institute.

In partnership with:



Southwest Minzu University



Smithsonian
National Zoological Park
Conservation Biology Institute



The Convention on the Conservation of Migratory Species of Wild Animals (CMS), also known as the Bonn Convention, is an environmental treaty of the United Nations that provides a global platform for the conservation and sustainable use of terrestrial, aquatic and avian migratory animals and their habitats.



The Global Initiative on Ungulate Migration (GIUM) was created in 2020 to work collaboratively to: 1) create a Global Atlas of Ungulate Migration using tracking data and expert knowledge; and 2) stimulate research on drivers, mechanisms, threats and conservation solutions common to ungulate migration worldwide.



View and Download
Map Data from the
GIUM Migration Atlas

Guan, T. and W. McShea. 2024. Sichuan Takin: Sichuan, China. Global Initiative on Ungulate Migration, editors. *Atlas of Ungulate Migration*. Convention on the Conservation of Migratory Species of Wild Animals.