Evolutionary history of enigmatic bears in the Tibetan Plateau

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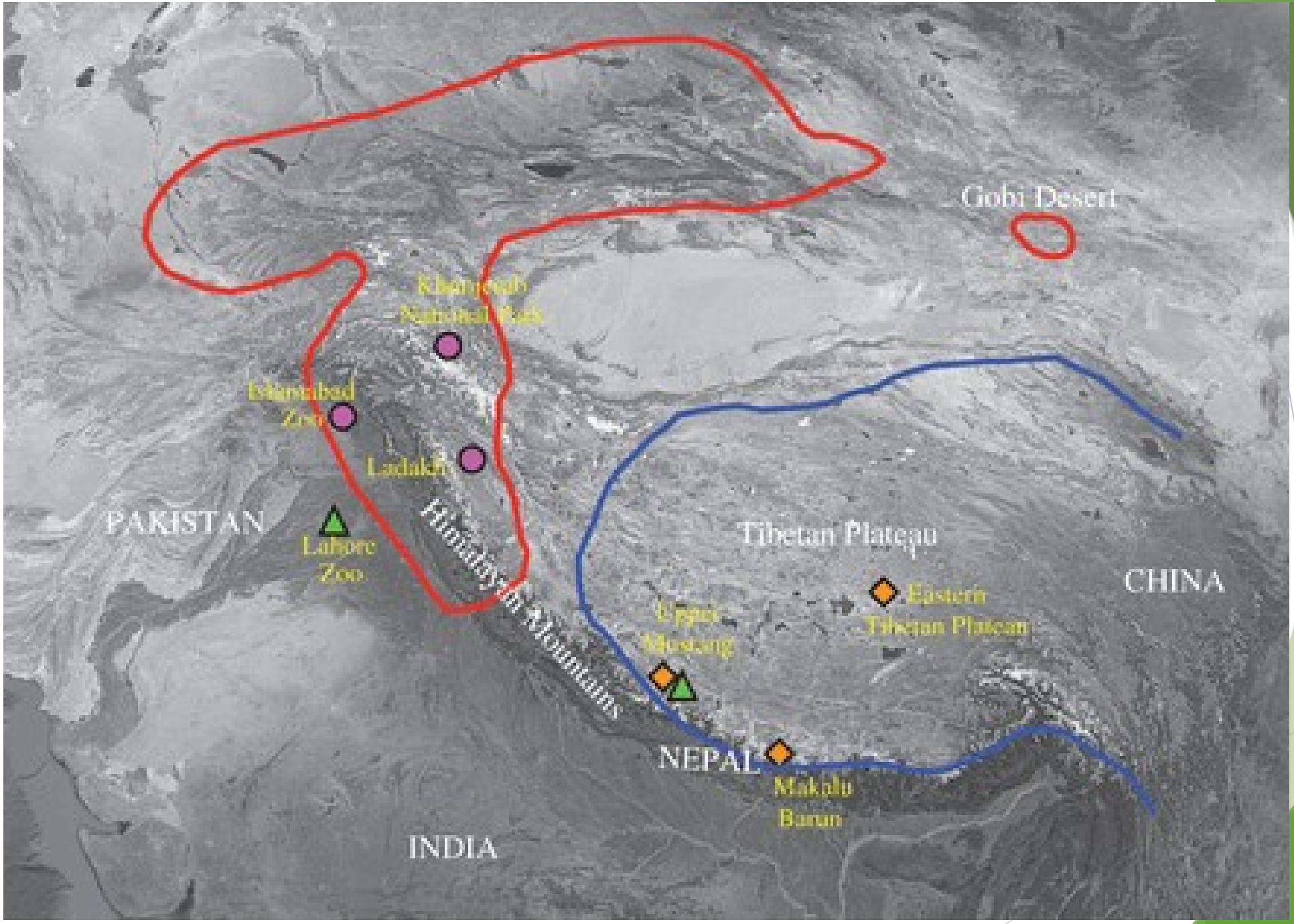
Gobi Desert
Khunjerab
National Park
Islamabad
Zoo
Ladakh
PAKISTAN
Lahore
Zoo
Himalayan Mountains
Tibetan Plateau
CHINA
Eastern
Tibetan Plateau
Upper
Mustang
NEPAL
Makalu
Barun
INDIA

Tibetan Plateau

The Tibetan Plateau is one of the youngest plateaus on Earth, created by the collision of the Indian subcontinent with the Eurasian continental plate in early Cenozoic times

The Tibetan Plateau, the most extensive and highest plateau in the world with an average altitude of 4500 m (approximately 2.8 miles) above sea level

Tibetan Plateau

- Dramatic environmental changes caused by the climatic oscillations and uplift of the plateau impacted the evolution, diversification and distribution of local plant and animal species.

- The region sustains a distinct biome with rich biological diversity and high level of endemism.

- The colonization and population expansion history of many species remains poorly understood, despite current and future impacts of climate change and anthropogenic threats to diversity loss.

Methods and Materials

- Few genetic studies have been conducted of bears in the Tibetan Plateau and surrounding Himalaya region, and their evolutionary history remains unknown.
- Researchers conducted a comprehensive genetic survey of field-collected and museum specimens.
  - to explore their identity and ultimately infer the evolutionary history of bears in the region.

Methods and Materials

- Recently, two purported yeti samples from the Himalayas showed genetic affinity with an ancient polar bear, suggesting they may be from previously unrecognized, possibly hybrid, bear species, but this preliminary finding has been under question

Methods and Materials

- The researchers conducted a comprehensive genetic survey of field-collected and museum specimens to explore their identity and ultimately infer the evolutionary history of bears in the region
- Phylogenetic analyses of mitochondrial DNA sequences determined clade affinities of the purported yeti samples in this study, strongly supporting the biological basis of the yeti legend to be local, extant bears

Results

- The study showed that Himalayan brown bears, including the previously reported Gobi bear and Deosai bears, form a well- supported, sister lineage to all other extant brown bear clades.
- Research strongly supports Himalayan brown bears as a relict population that diverged early from other brown bear populations.


Milo Burcham

Conclusion

- This study represents the most thorough and accurate analysis to date of samples suspected to derive from anomalous or mythical ‘hominid’-like creatures, strongly suggesting that the biological basis of the yeti legend is local brown and black bears.
  - Yetis are bears rather than a relative to primates

Review of paper

- The article was written to try and determine the linkage of a mysterious yeti to bears rather than apes as it was previously thought to be.
- The paper's weakness was the absence of clear species identification for many of the samples used
- The article would benefit if it was to organize big expedition and make as many records as possible. Of course, this will require much more money.