

Commentary to: An integrated historical study on human–tiger interactions in China

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Abstract

The tiger holds a revered position in Chinese culture, symbolizing power and strength, yet its coexistence with human populations has often been marked by tension and conflict. Understanding the historical dynamics of human–tiger relations is essential for comprehending the current state of tiger populations and shaping future coexistence with the species. The article “An integrated historical study on human–tiger interactions in China” examines several aspects of human attitudes toward tigers across varying dynasties, revealing striking differences, with some periods marked by intense exploitation and others characterized by greater tolerance. While the article discusses a number of interesting historical and current issues that help the reader to better understand human–tiger relations, it does not mention significant issues such as the practice of tiger farming, which appears to be a major area of human–tiger interaction as the number of captive tigers is now double that of wild populations. It is also important to consider the fundamental role of legislation in shaping human–tiger interactions in China. This commentary aims to complement the article's vision by addressing these gaps and offering valuable guidance for policymakers and conservationists working toward long-term human–tiger coexistence in China.

KEYWORDS

carnivores, coexistence, human–tiger interactions, human–wildlife conflict, illegal wildlife trade, tiger trade

Majestic, powerful, and deeply ingrained in Chinese culture, the tiger has long captivated human imagination. Yet, the relationship between these apex predators and the people who share their habitat has often been fraught with tension and conflict. Understanding the complex history of human–tiger interactions is essential if we are to achieve coexistence and maintain the crucial ecosystem functions that tigers provide. In the article “*An integrated historical study on human–tiger interactions in China*,” (Cao et al., 2024) the authors offer valuable insights from a national perspective on the dynamics of conflict and coexistence between humans and tigers in China. The analysis of ancient history is particularly noteworthy, as such an in-

depth examination of human–carnivore relationships is rare for other big cat species across different regions and cultures. I fully agree with the conclusion that tigers do not pose a significant threat to local Chinese populations, especially considering the species' population declines over the past 40 years (Dinerstein et al., 2007). However, it is important to recognize that conflicts in areas where big cats coexist with humans will persist and that coexistence is strongly based in mutual tolerance. Therefore, detecting, understanding, and effectively managing these conflicts is crucial for achieving long-term coexistence.

The article provides information, such as how prescriptions for tiger derivatives have historically

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varied according to the beliefs of different dynasties, with some being significantly more tolerant, likely promoting greater coexistence with tigers, while others were less so. This perspective encourages reflection on where human-tiger relationships stand at present. Are we closer to the Ming dynasty, which clearly had a predilection for the use—and likely abuse—of tigers, or more aligned with the Yuan dynasty, which was more tolerant and curtailed the abuse of the species? This societal positioning will have a profound impact on the short- and medium-term preservation of this majestic species, which is not only central to Chinese culture but also crucial to its ecosystems.

However, it is important to address certain aspects of the article and add significant information about contemporary human-tiger relationships that was not covered. First, the authors reference the IUCN Red List to assess the current status of wild tiger populations—a robust and internationally recognized source for reliable data (Goodrich et al., 2022). The IUCN estimates the number of mature tigers to be between 2608 and 3905, which is the internationally accepted standard for population size estimates (IUCN, 2012). The article, however, includes the number of cubs, which were also noted in the IUCN census as supplementary information for understanding potential population dynamics. This inclusion inadvertently inflates the overall population figure by over a thousand individuals—an increase of nearly one-third beyond the effective population size. Accurate population estimates are critical for defining the conservation status of a species, particularly when its population is already below sustainable thresholds (Courchamp et al., 2008). This discrepancy is not a minor issue, as it may lead to citation errors that overstate the actual number of surviving individuals, thereby distorting the true conservation reality.

Second, while the authors provide a review of various types of historical human-tiger interactions and an overview of the tiger trade in Chinese history, there is an opportunity to enhance this review by including additional information on the current relationship between tigers and humans, particularly in light of recent potential changes in legislation concerning the trade in tiger parts and derivatives. A significant omission in the article is the growing role of captive tiger breeding. Historically, this form of interaction was minimal, but it has surged dramatically in recent years, resulting in more than twice as many tigers in captivity as in the wild (EIA, 2017). This shift represents the most prevalent form of human-tiger interaction today. The increasing trend of tiger farming suggests that while the species *Panthera tigris* may not face immediate extinction due to a rise in overall numbers, the wild populations are at risk of vanishing, primarily due to poaching. This poses serious ecological consequences and threatens the species' genetic diversity in the medium term.

Finally, it is important to address the article's partial perspective on the legislation concerning

the trade in tiger parts. While the authors accurately note the 1993 ban on the trade of tiger parts and derivatives, they omit a significant development: the 2018 proposal to reverse this ban and legalize such trade. This proposed reversal was presumably motivated by the desire to tap into the multi-billion-dollar industry surrounding tiger farms, particularly those focused on supplying traditional medicine. However, following substantial international backlash, China postponed lifting the ban, thereby demonstrating its capacity for policy adjustment and its leadership in supporting wild tiger conservation.

The debate over the effectiveness of the ban versus a potential commercial regulation still remains unresolved, as the ban did not achieve the desired effect of preventing wild tiger poaching (Graham-Rowe, 2011; Rasphone et al., 2019). However, the legalization of trade, even if restricted to farmed tigers, raises concerns about the potential laundering of wild tigers as captive-bred ones, which could facilitate illegal hunting. While this is an intriguing topic for discussion, it extends beyond the scope of this commentary. Nevertheless, this context is essential for understanding the current status of tiger populations and their sustainability, which heavily depends on the conservation policies and efforts of China and neighboring countries.

As highlighted by the authors, the Chinese government has recently made significant efforts to support tiger conservation through the establishment of large reserves intended to protect key populations. However, protected areas alone may not suffice to ensure the long-term survival of tiger populations. Similar to other large field species, tigers require more comprehensive conservation strategies that extend beyond reserves and promote human-carnivore coexistence in human-dominated landscapes (Linnell et al., 2001; Villalva et al., n.d.).

Considering these points is crucial to fully understand the current status of tiger populations and their interactions with humans, providing a more holistic perspective that complements the historical context provided in the original article.

AUTHOR CONTRIBUTIONS

Pablo Villalva: Conceptualization; writing—reviewing and editing.

CONFLICT OF INTEREST STATEMENT

The author declares no conflict of interest.

DATA AVAILABILITY STATEMENT

Data sharing not applicable to this article as no data sets were generated or analyzed during the current study.

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