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Editorial: Predators in the city: large carnivores in urban landscapes of the Anthropocene

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Editorial on the Research Topic

[Predators in the city: large carnivores in urban landscapes of the Anthropocene](#)

Introduction

Burgeoning urban populations drive extensive and intensive land use reaching far beyond urban boundaries. In the Anthropocene era, large carnivore species (henceforth, carnivores) find themselves increasingly within human-dominated landscapes. Carnivores across the globe have suffered significant anthropogenic range contractions, which in turn are mediated by socio-cultural, economic, and political dynamics. However, urbanization has not been uniformly deleterious for all carnivores. Some species (e.g., leopards, black bears) have established themselves and are thriving in both urban and suburban landscapes.

The goal of this Research Topic is to evaluate the relationship of carnivores and people in human-dominated landscapes. We encouraged papers that model as well as provide evidence-based examples to highlight the socio-cultural, political, economic, and ecological factors that in turn i) structure human-carnivore relations, ii) facilitate human-carnivore coexistence; and iii) are useful in predicting the state of future human-carnivore relations in urban and urbanizing landscapes.

Carnivores in burgeoning urban centers

In reviewing the historical context for urban Leopards (*Panthera pardus*) in Seoul (South Korea), [Powell et al.](#) explore the socio-cultural, political, and ecological factors that may have facilitated human-leopard co-occurrence and the factors that eventually led to the leopards' extirpation in such settings. The change in urban settings and the developments across Seoul over time with fast depleting vegetation cover that provided

refuge, and limiting prey and food availability impacted the relationship between carnivores and humans in urban landscapes. The study concludes that predators throughout the Anthropocene, like leopards, can occur in urban settings where ecological, socio-cultural, and political conditions are allowed.

Another study on urban leopards by [Surve et al.](#) simultaneously presents a cogent challenge to the model of ‘fortress conservation’, and to an uncritical use of human population numbers in conservation science. The leopards of Mumbai (India) demonstrate the benefits that a densely populated megacity provides these carnivores, especially in terms of prey. Domestic dogs were the most prominent item in the diets of these urban felids, serving as a source of abundant, year-round, and reliable source of energy. Mumbai’s urban ecosystem has enabled its leopards to exist at approximately twice the density recorded in any of the nation’s protected areas.

[Struller et al.](#) studied spotted hyenas (*Crocuta crocuta*) at dumps in the city of Mekelle, in northern Ethiopia, detailing the species’ social behavior in urban settings. Their research shows that despite the highly variable food (low quality diet as compared to the wild), the widespread availability of food across the waste dumps attracted many hyenas to congregate at the garbage feeding sites at night to all den together at day resting sites. The study observed that the abundance of food led to lowering aggression among individuals.

Understanding human-carnivore conflict and coexistence in urban landscapes

Through exploring the use of “multinaturalism” in carnivore conservation across international borders, [Connolly and Nelson](#) aim to deepen stakeholder engagement and enhance human-carnivore coexistence in the Anthropocene era. Multinaturalism, a novel philosophical approach, helps reveal diverse stakeholder views on coexisting with large predators, such as jaguars (*Panthera onca*). While data collection and analysis demand significant time, investing in meaningful relationships with stakeholders can yield sustainable coexistence solutions. Human-wildlife conflicts are growing due to overlapping populations and diversified stakeholders in conservation. Multinaturalism enables a holistic understanding of these social dynamics, facilitating stakeholder involvement and co-creation of management solutions. In diverse conservation contexts, this approach offers a unique path to sustainable coexistence amid complex human-wildlife interactions.

In their paper assessing human-carnivore conflict generated by livestock depredation, [Pahuja and Sharma](#) consider the roles of multiple species, including free-ranging dogs - a widespread problem in urban areas in the Indian Trans-Himalayas. Of the total livestock mortality events, snow leopards (*Panthera uncia*) accounted for 24%, free-ranging dogs 15%, and wolves (*Canis lupus*) 9%. Climatic and natural events were the cause of 33% of livestock mortalities and disease was the cause of 20%. Despite

losing a sizable proportion of livestock (33%) to wild predators, respondents showed a positive attitude towards them but displayed neutral attitudes towards free-ranging dogs. Gender was the most important determinant of attitudes, with men showing a higher positive attitude score towards wild predators than women.

[Stanger et al.](#) explore how location impacts preferences for predator control methods and its implications for wildlife management agencies. It suggests that aligning management techniques with societal preferences, while promoting effective methods, can reduce social conflict and maintain trust. Urban and suburban residents in the United States tend to find lethal predator control inappropriate, favoring non-lethal methods or translocation for bobcats (*Lynx rufus*) and coyotes (*Canis latrans*). However, translocation often fails, complicating management outcomes. Traditional predator control methods were designed for rural areas, but urban and suburban environments pose unique challenges due to high human densities. The study highlights the need for context-specific predator control strategies and increasing public tolerance towards wildlife to improve coexistence, especially in residential areas.

Finally, [Guerisoli and Schiaffini](#) draw attention to the growing importance of interactions between humans and charismatic predators in urban areas of Latin America and points to an emerging method to monitor this trend: the systematic search of media news. Pumas (*Puma concolor*), despite being shy and nocturnal, are exceptionally charismatic and therefore any event involving this species in an urban context tends to make headlines. The authors found a total of 162 events over the last 10 years. Most of the records came from Brazil, followed by Argentina, Chile, and Mexico, with 41% being about sightings and 58% were about capture.

Conclusion

The articles in this Research Topic elucidate the dynamic nature of urban and urbanizing social ecological landscapes, and feedback between key components that advance actionable science in the study of human-carnivore relations. Specifically, they highlight how carnivores and humans influence each other’s behavior, how sociocultural norms inform such feedback, and how a better understanding of these feedbacks contributes to strategies for mitigating conflict and enhancing coexistence. Given that carnivore behavior and human sociocultural norms are complex and ever-changing, long-term studies on human-carnivore interactions in urban and peri urban spaces are an absolute necessity.

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