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Editorial: Human-wildlife conflicts: consequences of the erosion of the available habitat, introduction of alien species, and anthropization

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Editorial on the Research Topic

[Human-wildlife conflicts: consequences of the erosion of the available habitat, introduction of alien species, and anthropization](#)

Why do human-wildlife conflicts exist? Before answering this fundamental question, we would like to point out that there are no problematic species in themselves. Unfortunately, the growth of human population has often created conflicts, or in any case interactions, often with dramatic consequences, between humanity and wildlife. In fact, the human population increases continuously dramatically in number, and the degradation of the world's natural areas decreases through deforestation, urbanization, intensive agriculture, pastures, fires, etc. This has already caused the disappearance of habitats, communities and animal species, disappearance includes local and unfortunately with no return. To make man (and his activities) coexist with wildlife, it is increasingly necessary to implement strategies, to reach a compromise, always with a view to being able to safeguard, if possible, nature, its components and functions. We should be aware that successful conservation programs, especially of large carnivores, may also led to conflicts (Gippoliti et al., 2018; Herrero et al., 2021). Management between researchers and local communities should be strengthened, again being fully aware that some forms of conflicts in wildlife-human coexistence are unavoidable (Hill, 2021).

Humans did not evolve in an empty planet. We evolved with other organisms, some of them smaller and weaker than us, others bigger and stronger. We eat some of them, although modern humanity mostly uses few domesticated and highly selected plants and animals. Some of them will occasionally eat us, or poison us, or otherwise inconvenience people. They may trample our crops, or harass our livestock, or simply deposit too much fecal matter where we consider it unsightly. And as there are more of us and our footprint grows, there is less space for other organisms to exist away from us. Sometimes they go extinct. At other times, conflict ensues. It can be mild in nature – a species is a nuisance – or

more extreme. Reducing such conflict has long been a goal of applied researchers (Angelici, 2016; Angelici and Rossi, 2020). As over 4,000 views of the four articles in this just-closed special Research Topic shows, interest is ongoing and widespread.

In the articles included in our Research Topic “*Human-Wildlife Conflicts: Consequences of the Erosion of the Available Habitat, Introduction of Alien Species, and Anthropization*”, Neupane et al. reported on the ecological factors determining barking deer *Muntiacus vaginalis* distributions in Nepal. A “Vulnerable” and therefore protected species in Nepal, its decline is likely to affect predators such as the endangered common leopard *Panthera pardus*. A series of factors, including distance from human settlement, predicted deer sightings. Here, then, the conflict is one sided: human actions affecting animal presence and abundance. Human-wildlife conflict, in this instance, is very similar to traditional conservation research.

Bhardwaj et al. also looked at wild ungulates, this time the roe deer *Capreolus capreolus* and red deer *Cervus elaphus*, as well as wild boar *Sus scrofa*, in southern Sweden. They explored the utility of crossing passages where a gap in roadside fencing allows animals to traverse a road. A Roadside Animal Detection System (RADS) alerts drivers to the presence of wildlife, hopefully reducing costly accidents. The study provides promising preliminary results that offer a cheaper alternative to costly over- or under-road crossing solutions.

Ji et al. explored conflicts between humans and Asiatic black bears *Ursus thibetanus* near the Gaoligongshan Nature Reserve in China. Conflict resulted from produce raiding (including crops, beehive loss, and livestock depredation) by bears and infrequent human casualties. Habitat fragmentation increased the risk of human-bear conflict, and the authors were able to recommend multiple mitigation approaches.

Finally, Naha et al. studied how fencing affects movement patterns of two large carnivores, lions *Panthera leo* and spotted hyenas *Crocuta Crocuta* in Namibia. The Etosha National Park is surrounded by an 824 km perimeter fence, intended to protect the reserve from poaching and reduce conflict with human settlements outside the park. Both species occasionally cross the fence, however, indicating the need to develop additional strategies to mitigate human-carnivore conflicts.

Taken together, these four studies show that conflict can occur anywhere around the world and with a wide range of taxa. They

suggest some methods that work well to reduce some of them but also that others are insufficient and require development or implementation of additional tools. But all of them show the increased encroachment of humans into the habitats of other species, and the increased possibility, almost certainty, of conflict caused by the global growth in the human population and of the needs of new areas for agriculture and tourism, but also by the growth of wildlife populations inside successfully managed protected areas, and also in urban environments.

Author contributions

All authors listed have made a substantial, direct, and intellectual contribution to the work and approved it for publication.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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