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BROWN BEAR ATTACKS ON HUMANS: A WORLDWIDE OVERVIEW

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Abstract
Although extremely rare compared to incidents involving other wildlife, attacks on humans by large carnivores have been increasingly reported globally in the last decades. The expansion of the human population and activities within areas occupied by large carnivores together with the ongoing recovery of several populations of these species are likely behind this trend. This scenario is also true for brown bears Ursus arctos, where attacks on humans can negatively affect public tolerance toward bears and their conservation. Understanding the dynamics behind such incidents can help to reduce their occurrence, consequently improving both human safety and support for brown bear conservation. Our goal here is to provide a general overview of the phenomenon by analysing and comparing scenarios of brown bear attacks on humans worldwide. Specifically, we aim to investigate several aspects such as (a) spatio-temporal patterns of attacks at various levels and (b) bear and human characteristics (e.g., age and sex, activity and behaviour at the time of the attack). We recorded a total of 759 attacks by brown bears on humans between 1970 and 2015: 271 in North America (57 fatalities), 137 in Russia (55 fatalities) and 351 in Europe (23 fatalities). Globally, attacks increased over the period considered. Most attacks occurred during summer (55%) and during daylight (69%). Almost all human victims were adult (98%) and usually male (88%). At the time of the attack, 46% of the humans were carrying out leisure activities (e.g., hiking, camping) whereas 28% were hunting and 26% working (e.g., shepherding, farming, logging). The most prevalent attack scenarios were encounters with females with cubs (38%), followed by wounded bears (11%), predatory attacks (11%) and the presence of dogs (10%). We will discuss management implications of this study and give recommendations to avoid the occurrence of such incidents.