

Impact of individual demographic and social factors on human–wildlife interactions: a comparative study of three macaque species

ABSTRACT

Despite increasing conflict at human–wildlife interfaces, there exists little research on how the attributes and behavior of individual wild animals may influence human–wildlife interactions. Adopting a comparative approach, we examined the impact of animals' life-history and social attributes on interactions between humans and (peri)urban macaques in Asia. For 10 groups of rhesus, long-tailed, and bonnet macaques, we collected social behavior, spatial data, and human–interaction data for 11–20 months on pre-identified individuals. Mixed-model analysis revealed that, across all species, males and spatially peripheral individuals interacted with humans the most, and that high-ranking individuals initiated more interactions with humans than low-rankers. Among bonnet macaques, but not rhesus or long-tailed macaques, individuals who were more well-connected in their grooming network interacted more frequently with humans than less well-connected individuals. From an evolutionary perspective, our results suggest that individuals incurring lower costs related to their life-history (males) and resource-access (high rank; strong social connections within a socially tolerant macaque species), but also higher costs on account of compromising the advantages of being in the core of their group (spatial periphery), are the most likely to take risks by interacting with humans in anthropogenic environments. From a conservation perspective, evaluating individual behavior will better inform efforts to minimize conflict-related costs and zoonotic-risk.