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Ranging on community land and crop-raiding by mountain gorillas

A major challenge of wildlife conservation is the conflicts arising from interactions between humans and wildlife. Ranging outside the park and crop-raiding by mountain gorillas (*Gorilla beringei beringei*) around Bwindi Impenetrable National Park, Uganda, is a major conservation concern as this leads to not only the risk of disease transmission, but also harassment, uncontrolled contact with tourists and human waste, and even gorillas being killed. The objective of this study was to investigate the ecological factors influencing gorilla ranging outside the national park and crop-raiding. We examined the relationship between food availability in both community land and the adjacent park to the number of days gorillas ranged outside the park and crop-raided. Using Generalized Linear Mixed Models, we found that the occurrence of both ranging outside the park and crop-raiding to be positively influenced by the availability of both tea and pine plantations and uncultivated land, all which contain herbaceous plants eaten by the gorillas, as well as due to the availability of palatable crops (bananas, eucalyptus and sweet potatoes). Our results suggest that gorillas do not range outside the park and crop-raid as an answer to forest food scarcity, but they are attracted by certain food resources outside the protected area. We recommend converting land outside Bwindi into unattractive feeding grounds by planting buffer crops and removing herbaceous foods consumed by gorillas. This study emphasizes how it is crucial to gain a better understanding of the ecological determinants of wildlife ranging and crop-raiding to guide evidence-based conservation strategies.