
Influence of intraguild interactions on large carnivore foraging strategies

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Abstract

Carnivores can access food through predation, kleptoparasitism or scavenging. The relative importance of these foraging strategies influence food web functioning. Intraguild interactions are structuring in large carnivore communities and likely to influence carnivore foraging strategies but are not well understood. In Hwange National Park, Zimbabwe, the long-term monitoring of spotted hyaena diet (1999-2013) associated with a moratorium on lion trophy hunting in the periphery of the park (2005-2008) affecting the lion population inside the park, provided a unique opportunity to study the changes in hyaena foraging in response to changes in the abundance of the lion population. The analysis of hyaena scats and feeding sites of GPS-tracked individuals in two contrasting periods of lion population abundance revealed that in period of high lion abundance, hyaena consumption and preference for very large prey (elephant and giraffe) increased, while that of large (buffalo) and medium-sized prey (e.g. zebra) decreased. These results suggest a shift from active predation to scavenging and are discussed in the context of the increased risk of kleptoparasitism and intraguild competition, but also in the light of possible intraguild facilitation as the increased proportion of adult males in the lion population may have led to an increase of lion predation on very large prey providing hyaenas with additional resources through scavenging. Our findings suggest that changes in the abundance of competing carnivores, by affecting the intensity of their interactions, can affect their foraging strategies. They further highlight the indirect role of human activities (trophy hunting) on these intraguild interactions.

Keywords: carnivores, kleptoparasitism, competition, facilitation, community, intraguild interactions, African savanna, trophy hunting

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