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Pre-submission inquiry (patterns of spotted hyena roadkills in the Serengeti) for Conservation Biology

Dear Dr Mark Burgman, dear editors,

I am writing on behalf of my co-authors to inquire about the suitability of our manuscript entitled “Traffic volume and long-distance foraging movements to migratory prey shape roadkill patterns in Serengeti spotted hyenas” for *Conservation Biology*. I believe that the results we present would be of interest to your readers and that they would fit nicely within the journal’s scope and interest in human-wildlife conflicts.

Please find our abstract below:

Abstract

Vehicles kill many wild animals worldwide, including in protected areas, that are facing increasing road use due to the rise of human population at their boundaries and the growing interest in wildlife tourism. Yet, knowledge on the factors influencing wildlife roadkills within protected areas is limited. Here we investigated spotted hyena (Crocuta crocuta) roadkills inside the Serengeti National Park, Tanzania, between 1989 and 2022 (n = 96). We studied the spatial determinants of roadkill incidence using a generalized linear model and assessed potential temporal and spatiotemporal patterns in roadkill incidence, as well as the effect of age, sex and social rank. Roadkills were more likely on main roads and the locations and number of roadkills varied according to seasonal changes in the locations of vast migratory ungulate herds, which are the main prey of hyenas. Adult females, who travel the most, suffered the highest levels of road mortality. Our results indicate that roadkill patterns were shaped by traffic volume and speed and their incidence exacerbated by the long-distance ‘commuting’ trips that Serengeti hyenas regularly undergo to feed on migratory herbivores. Measures such as enforcement of existing speed limits, particularly on main roads, and more stringent restriction on night driving could mitigate this threat.

Thank you for your time and consideration.

Best regards,

Marwan Naciri