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Forage selection by Masai giraffes (*Giraffa camelopardalis tippelskirchi*) at multiple spatial scales

Levi, Matana

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Forage selection by Masai giraffes (*Giraffa camelopardalis tippelskirchi*) at multiple spatial scales

Matana Levi, Derek E. Lee, Monica L Bond, Anna C Treydte

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Abstract

Management of rangelands requires knowledge of forage species that are preferred or avoided by wildlife and livestock. A recent expansion of woody vegetation into previously open grasslands in African savanna ecosystems negatively impacts many mammalian grazers. Nevertheless, the ecological role of bush encroacher plant species as food may present a benefit for browsing species. We quantified diet selection by Masai giraffes (*Giraffa camelopardalis tippelskirchi*) through foraging observations and vegetation sampling in the Tarangire Ecosystem of Tanzania, which includes large areas of a native shrub that livestock managers have classified as an encroacher species (*Dichrostachys cinerea*). We compared woody plant species used by giraffes for foraging with availability at two different spatial scales during the wet and dry seasons. Giraffes selected some woody plants such as *Vachellia* species while significantly avoiding others, both at the local and landscape scales. Giraffes preferred foraging on *D. cinerea* at both spatial scales and in both the wet and dry seasons. Management that has focused on benefiting grazing livestock by removal of encroaching species (e.g., *D. cinerea*) may have unintended consequences for wildlife, especially for browsing species like giraffes that feed extensively on the expanding bush species.

Keywords

Browser; Rangeland ecology; Resource selection; Savanna landscapes; Tanzania; woody vegetation