The role of herbivores as dung seed-dispersing agents for encroaching woody species in Nech Sar National Park, Ethiopia

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Introduction

The Plains of Nech Sar National Park are a semi-arid savannah and have been used for grazing since the 1960s. This may lead to changes in the vegetation, which have been associated with overgrazing and is affecting conservation and ecotourism development. To determine if endozoochory could contribute to changing vegetation, we investigated the seed-dispersing roles of herbivores in this ecosystem.

This figure illustrates woody encroachment in the savannah plains of Nech Sar National Park. The encroaching species in the figure is *D. cinerea*

Methods

- ❑ **Dung collection**
- ❑ **Seed extraction**
- ❑ **Germination test**

These illustrate different steps of the experiment

Results

Germination percentage of seeds of woody species extracted from dung samples of different herbivores

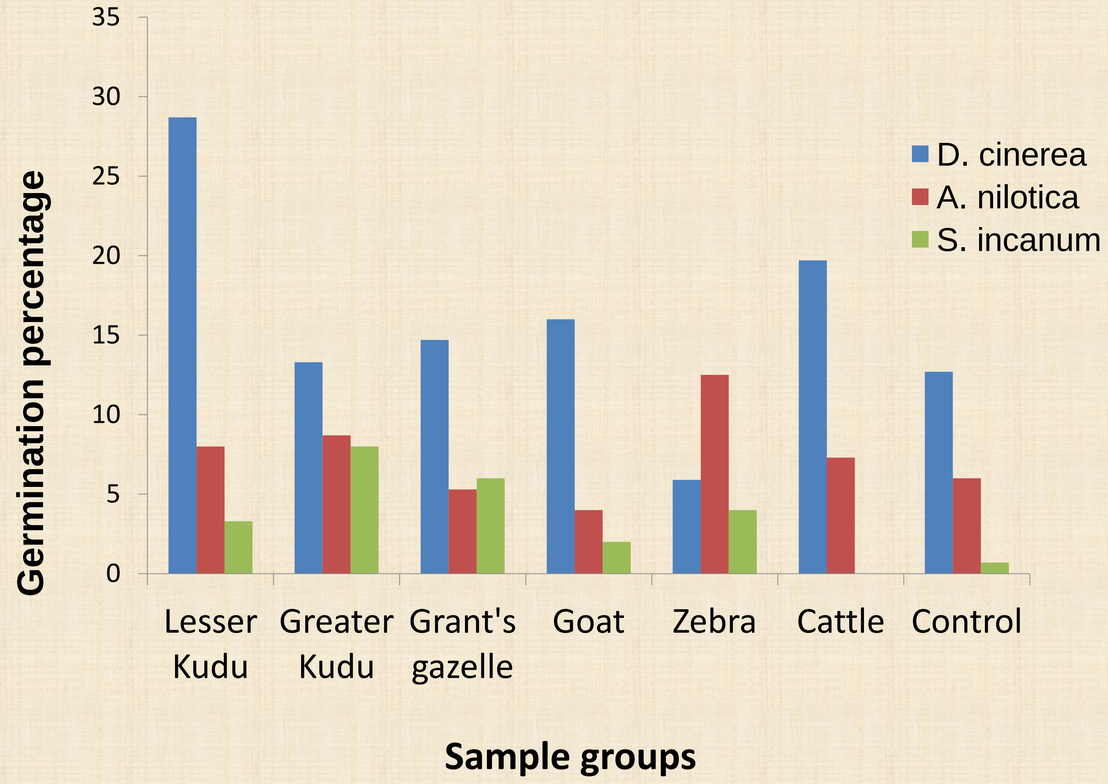

Table below shows X^2 comparisons of germination of seeds between sample groups. Bold p-values indicate significance difference at α = 0.05.

Species	Control vs. L. kudu	Control vs. G. kudu	Control vs. G. gazelle	L. Kudu vs. G. Kudu	L. Kudu vs. G. gazelle	L. Kudu vs. Goat	G. Kudu vs. Goat	G. Kudu vs. Zebra
D. cinerea	**0.001**	1	0.736	**0.002**	**0.005**	**0.013**	0.624	0.623
A. nilotica	0.719	0.506	1	1	0.562	0.286	0.155	0.532
S. incanum	0.214	**0.004**	**0.024**	0.134	0.571	1	**0.034**	**0.014**

Conclusions

- ❑ Lesser Kudu, Cattle, Goat, Grant's gazelle and Greater kudu had high potential to disperse the seeds of *D. cinerea* and *A. nilotica* via dung in the Park.
- ❑ Herbivore endozoochory could explain the dispersal of encroaching species in the study area.
- ❑ Conservation planning should take into account this dispersal potential.

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