Dung deal: The Effects of Mammalian Herbivore Dung and Urine Deposition on Grassland Plant and Arthropod Communities

Amy Dennett[1], Prof Mark Robertson[3], Prof Colin Beale[2], Prof Kate Parr[1]

1. UNIVERSITY OF LIVERPOOL
2. UNIVERSITY of York
3. UNIVERSITEIT VAN PRETORIA UNIVERSITY OF PRETORIA YUNIBESITHI YA PRETORIA Denkleiers • Leading Minds • Dikgopolo tša Dihlalefi

ACCE DTP Adapting to the Challenges of a Changing Environment

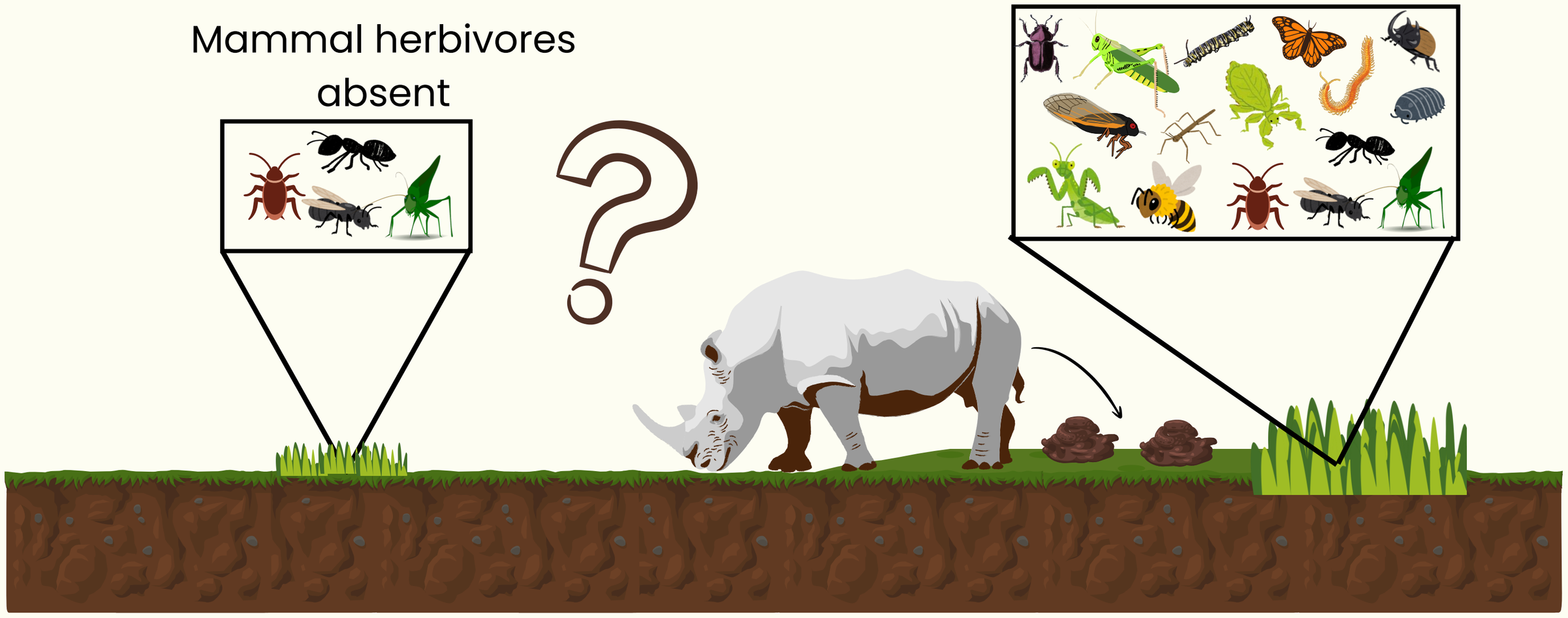
Background

Large herbivore mammals consume and then redistribute nutrients across savannas through urination, and defecation.

Currently, large mammals are declining across Africa. Understanding how nutrient inputs affects vegetation quality and subsequent insect herbivory is important when trying to understand the impacts of large mammal species decline.

Research question

How does the presence of nutrients from large mammals via' defecation and urination alter the ground layer plant quality and arthropod abundance, richness, and community composition?




Dung spreading on a subplot

Fieldwork in an established experimental setup in Limpopo, South Africa.

We add medium-large mammal dung and nutrients (as a proxy for urine deposition) to subplots to determine the impact of dung and urine on ground layer communities

Next steps

- In January 2027, data will be collected from the nutrient addition and control plots and be compared with data collected pe-nutrient spreading.
- Identify vegetation and invertebrate samples.
- Develop a statistical model to investigate the effects of nutrient addition on ground layer plants and arthropod communities.