Dung Beetle diversity and species richness in South Africa

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Introduction
Dung beetles live in different habitats on nearly every continent. They play a critical ecological role in removing animal waste—which can prevent disease—and in cycling nutrients in the soil (Davis 2002). We expected to see a difference in species richness and diversity between habitats and a decrease in dung beetle activity over time.

Materials and Methods
• Research carried out at Wits Rural Facility, Limpopo, South Africa
• Dung beetles sampled in 3 habitats: Grassland, Ecotone, and Woodland
• 10 sites in each habitat, 25 m apart
• 1 kg of cow dung per site
• Counted the number of species at each site over two days
• Counted species and number present at 10 AM, 2 PM, 4 PM

Results

![Graph showing average species diversity across habitats over two days](image)

Figure 1: The average dung beetle species diversity across habitats over two days. There was a significant difference in species diversity among habitats on the first day (ANOVA, F = 4.81, p = 0.016).

![Graph showing number of individuals over time](image)

Figure 2: There was a decline in the number of dung beetle individuals in all habitats as time progressed. In contrast with our data on number of species, the average number of dung beetle individuals in each plot was highest in the ecotone.

Conclusions
More dung beetle species were found in grasslands than in the ecotone or woodland. Dung beetle activity dropped off over time, demonstrating that dung beetles are most active when dung is fresh. This conclusion is supported by our observation that the number of individuals decreased throughout the day. The number of individuals and species of dung beetles also decreased over time as the dung resource was depleted.

References


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