INTRODUCTION

- Dung beetles (Coleoptera: Scarabaeidae) are important in natural and agricultural ecosystems due to their ability to provide a range of ecosystem services.
- Dung beetles rely upon a high quality, but scattered and ephemeral resource to reproduce.
- Majority of research is around spatial and seasonal community variation, with limited diurnal temporal niche partitioning being researched.
- Dung beetles have traditionally been monitored by on-site trapping devices such as pitfall traps.

AIM AND EXPECTATIONS

We aim to develop an automatic time sorting pitfall trap (TSPT) for sampling of dung beetle communities to investigate the diel activity and abiotic triggers of diel activity. Our expectations are:

1. the TSPT will capture dung beetles at different time points throughout the day;
2. Species abundance and diversity is not different compared to the other traps;
3. TSPT will be as efficient in trapping dung beetles as standard ground-level pitfall traps.

RESULTS

PROTOTYPE TESTING

- 32 time points resulting in 228 beetles caught.
- 11 species were captured during this time frame.

EFFICIENCY TRIAL

- TSPT caught 9 species, ground trap caught 12 species and the raised trap caught 9.
- 80 time points for the TSPT resulted in 184 beetles from 9 species.
- 3 of 13 species overall were only caught once.
- 5 of 13 species overall were caught with <10 individuals total.
- 9 of 13 species overall were caught with <20 total individuals.

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