

Do wild bees' physiological or ecological traits influence their response (abundance and diversity changes) to conservation strategies?

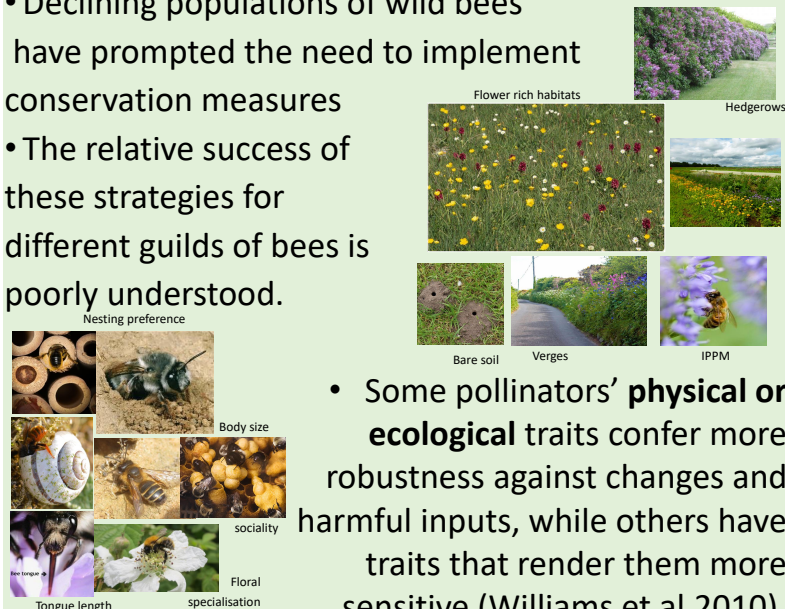
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Introduction

- Declining populations of wild bees have prompted the need to implement conservation measures
- The relative success of these strategies for different guilds of bees is poorly understood.



- Some pollinators' **physical or ecological** traits confer more robustness against changes and harmful inputs, while others have traits that render them more sensitive (Williams et al.2010).

- We predicted that some physical/ecological traits in different bees are predictive of their response to conservation.

Project aims

- Determine bee's traits predictive of their response to conservation
- Develop a framework for landscape evaluation by habitat indicators for ground-nesting bees
- Generate a predictive model of ground-nesting bees' potential occurrence in Balruddery

Acknowledgements

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Methods

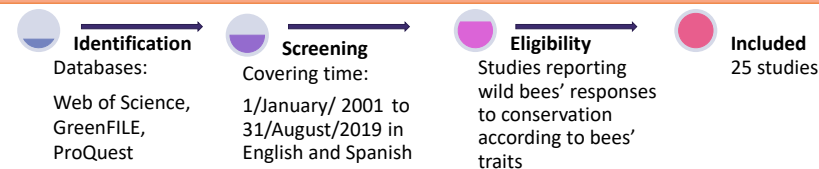
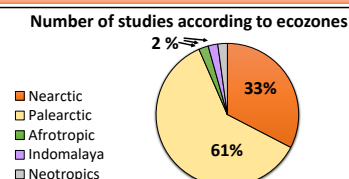


Figure 1 Percentage of studies according to ecozones



Preliminary results

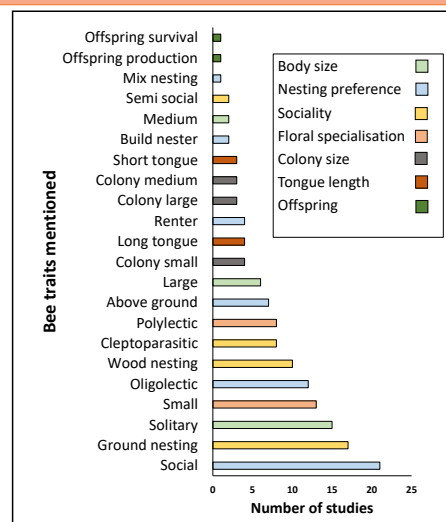


Figure 2 Bee traits mentioned in the studies the trait most reported are social and ground nesting, contrary traits about offspring production

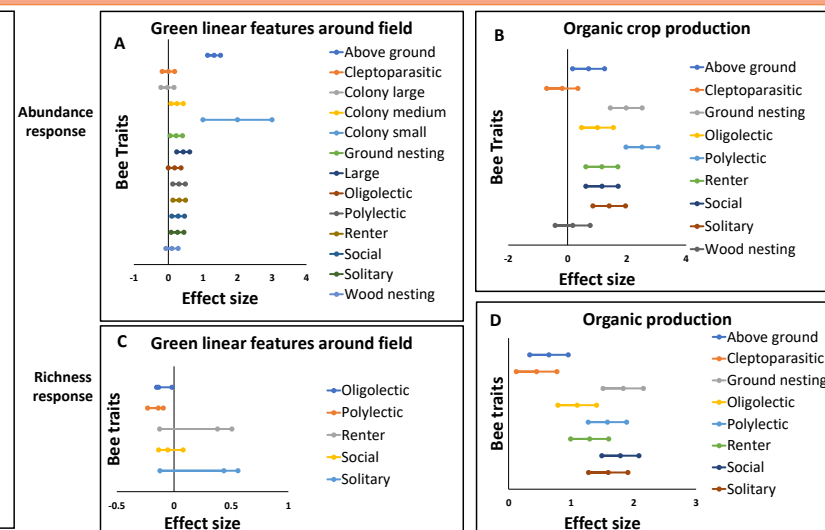
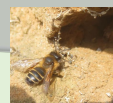


Figure 3 The effects of green linear features around fields (A, C) and organic production (B, D) on the abundance and richness of bee response Effect size (ES) was calculated through 25 different data sets. Error bars are 95% confidence intervals (CI), and effects are considered significant when a CI does not overlap with 0 and are positive

Future work

Apply trait-based information to



Ground-nesting bees

Survey populations and distributions of

Model the potential landscape-scale impacts of conservation strategies on

References

Williams, Neal M, Elizabeth E Crone, T'ai H Roulston, Robert L Minckley, Laurence Packer, and Simon G Potts. 2010. Ecological and life-history traits predict bee species responses to environmental disturbances. *Biological Conservation* 143: 2280–91.