

Peatland Restoration

- Impacts on Insect Assemblages

Preliminary findings

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Background

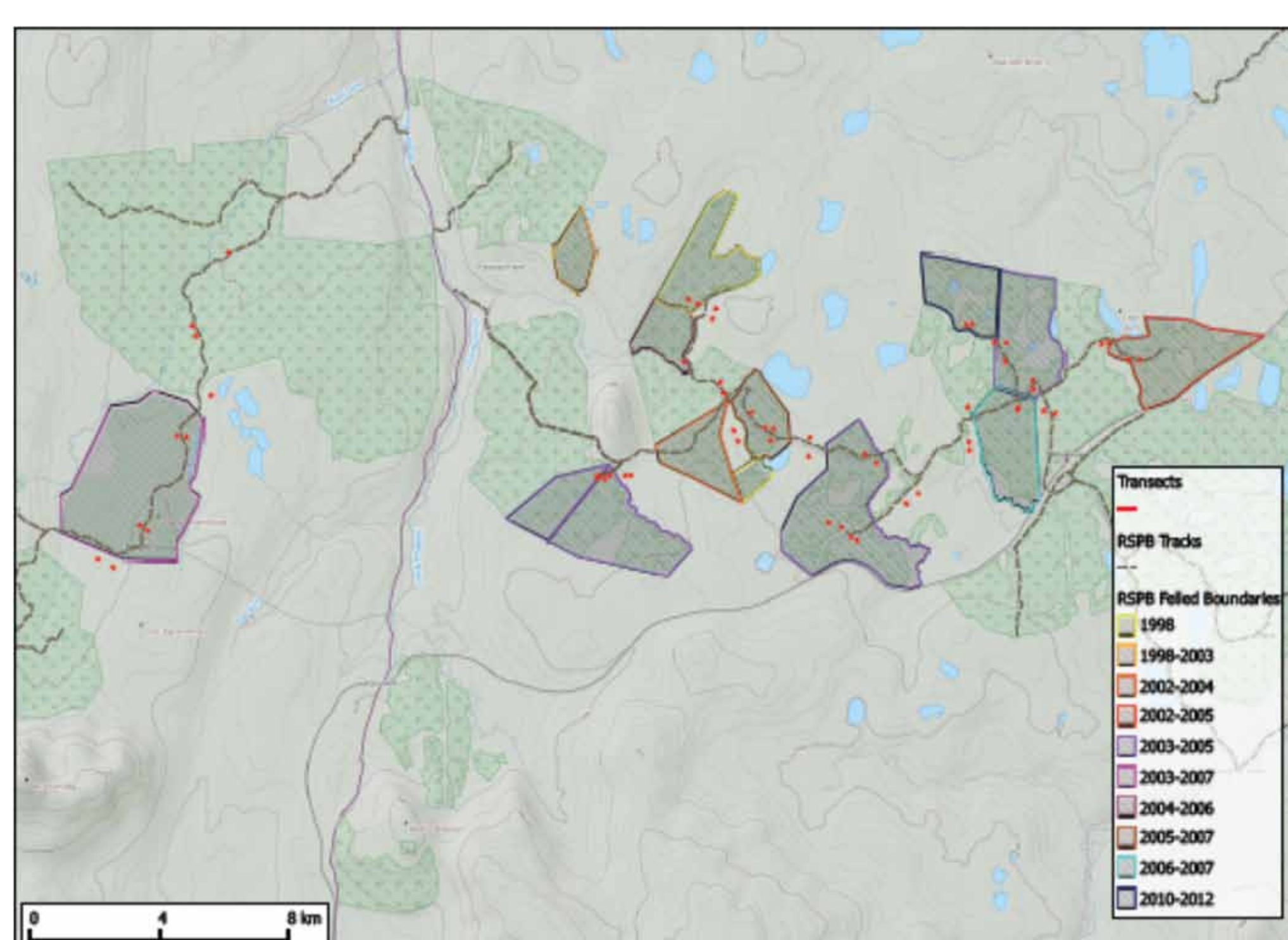
1. Effectiveness of peatland restoration on biodiversity other than vegetation has been neglected
2. Insects at **different trophic levels** are good indicators of habitat quality as they **respond to different features** of the habitat
3. Characteristic insect assemblages in peatlands depend strongly on **structural and compositional complexity of the vegetation**
4. **Auchenorrhyncha**, as phytophagous species, are especially sensitive to vegetation **composition**
5. **Coleoptera** (mainly carnivorous species) & **Heteroptera** (mixed feeders, mainly phytophagous) may be more affected by **structural complexity**



The Experiment

Located at Forsinard Flows Nature Reserve, Sutherland

- **3 treatments** (see map):
 - **Degraded** – plantation (15 transects)
 - **Restored** – felled (30 transects)
 - **Target** – pristine bog (15 transects)
- Insect sampling via sweep net and suction sampler
- Vegetation sampling (composition and structure)
- Environmental variables (pH, moisture)



What we have found so far!

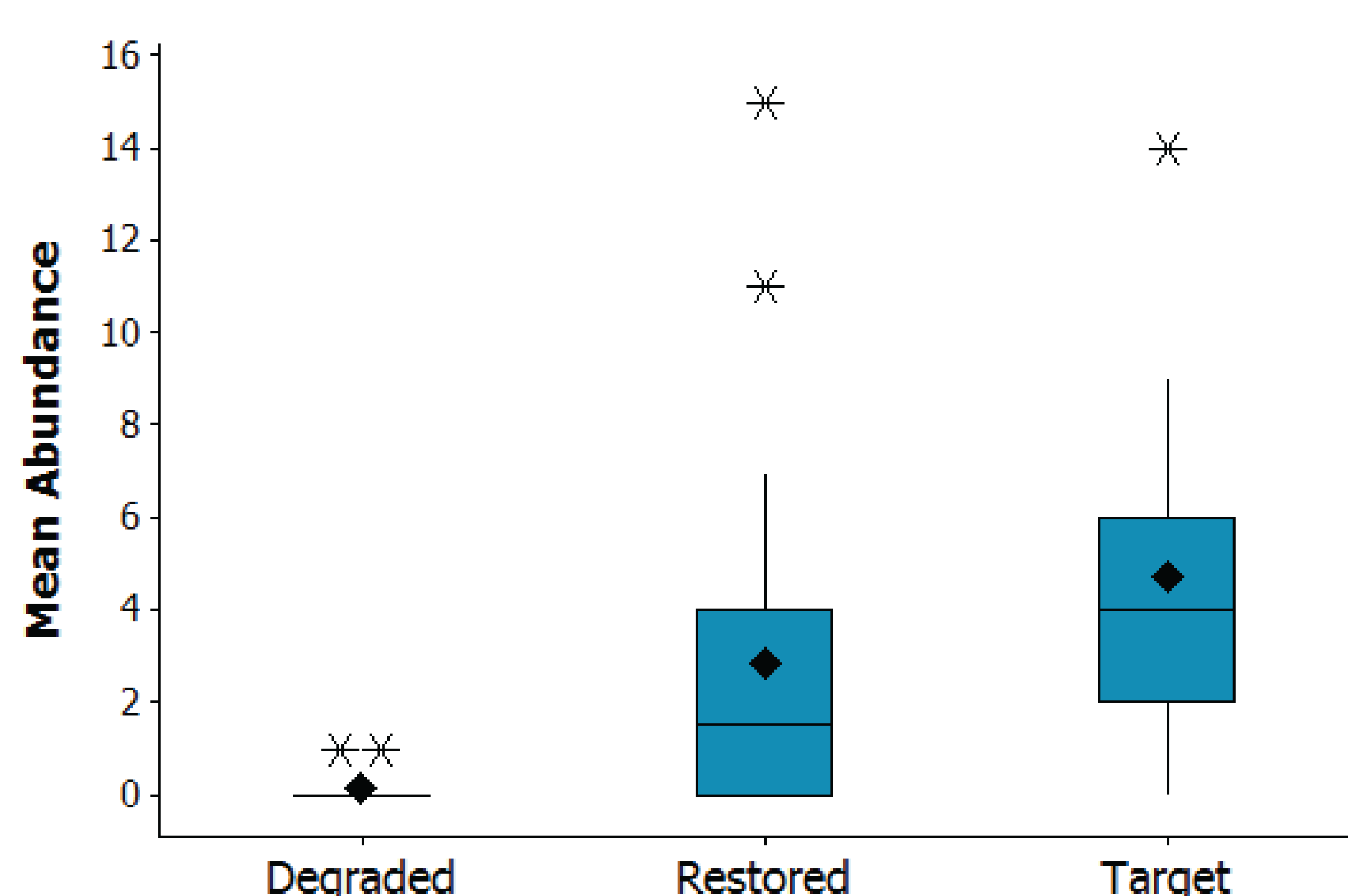
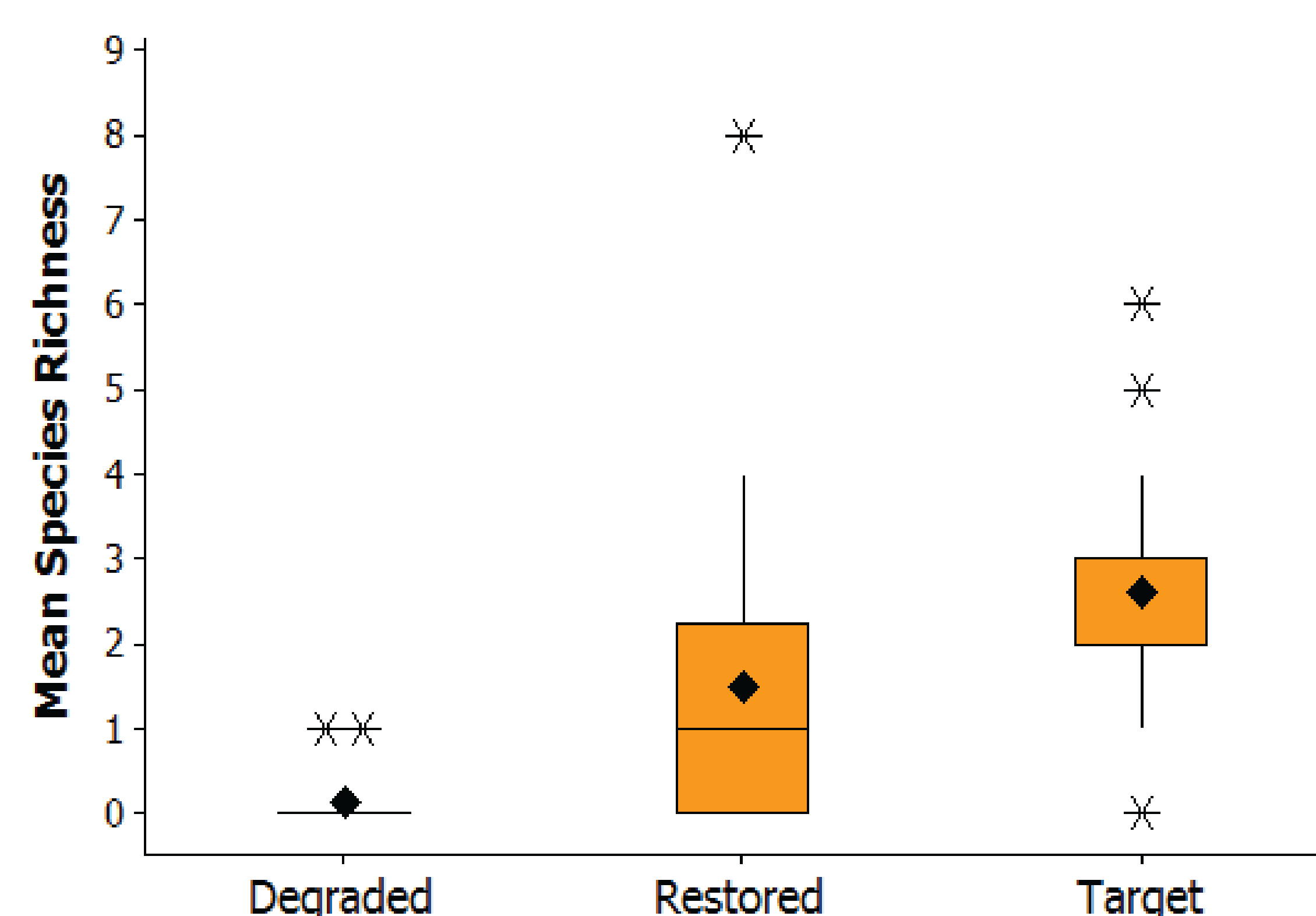


Planaphrodes bifasciata, a species commonly found in upland and boggy areas across the UK, host plant may be grasses in the Poaceae.



Ulopa reticulata feeds predominantly on heather and is widespread and often common on heathland.

- Very few specimens found on the forest floor.
- Mean abundance ($P = 0.099$) and species richness ($P = 0.039$) higher in bog than in restored.
- Some species (e.g. *Planaphrodes bifasciatus*, *Ulopa reticulata*) are far more characteristic of bog sites than restored sites.



What comes next?

- Further study into Heteroptera and Coleoptera groups
- Investigate community responses, how species assemblages of the different groups respond to treatments, taking into account rare and specialised species
- Analyse vegetational and environmental data as possible explanatory variables

Acknowledgements

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