

# Peatland Restoration

## - Impacts on Insect Assemblages

### Preliminary findings

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## Background

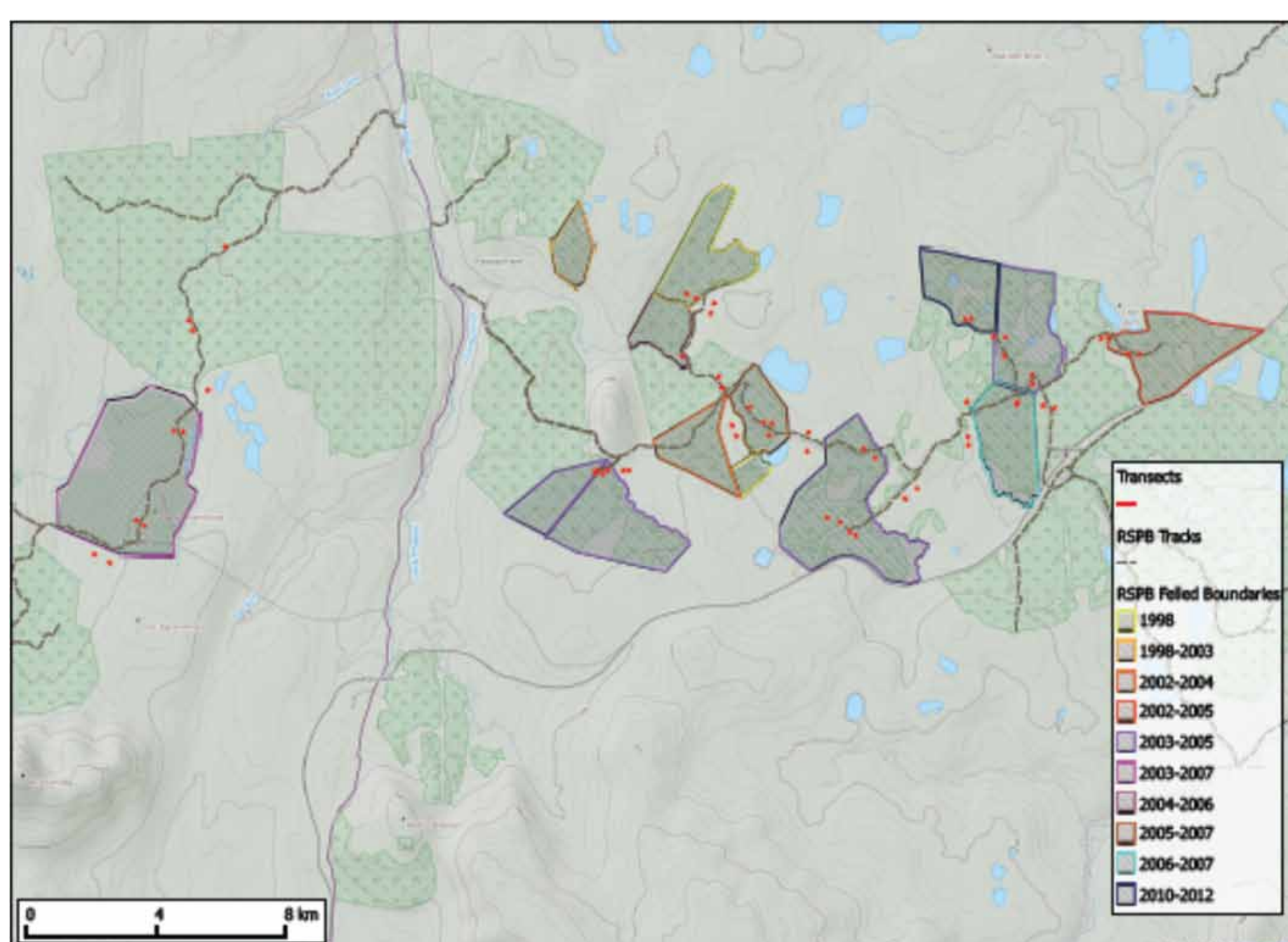
1. Effectiveness of peatland restoration on biodiversity other than vegetation has been neglected
2. Insects at **different trophic levels** are good indicators of habitat quality as they **respond to different features** of the habitat
3. Characteristic insect assemblages in peatlands depend strongly 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!

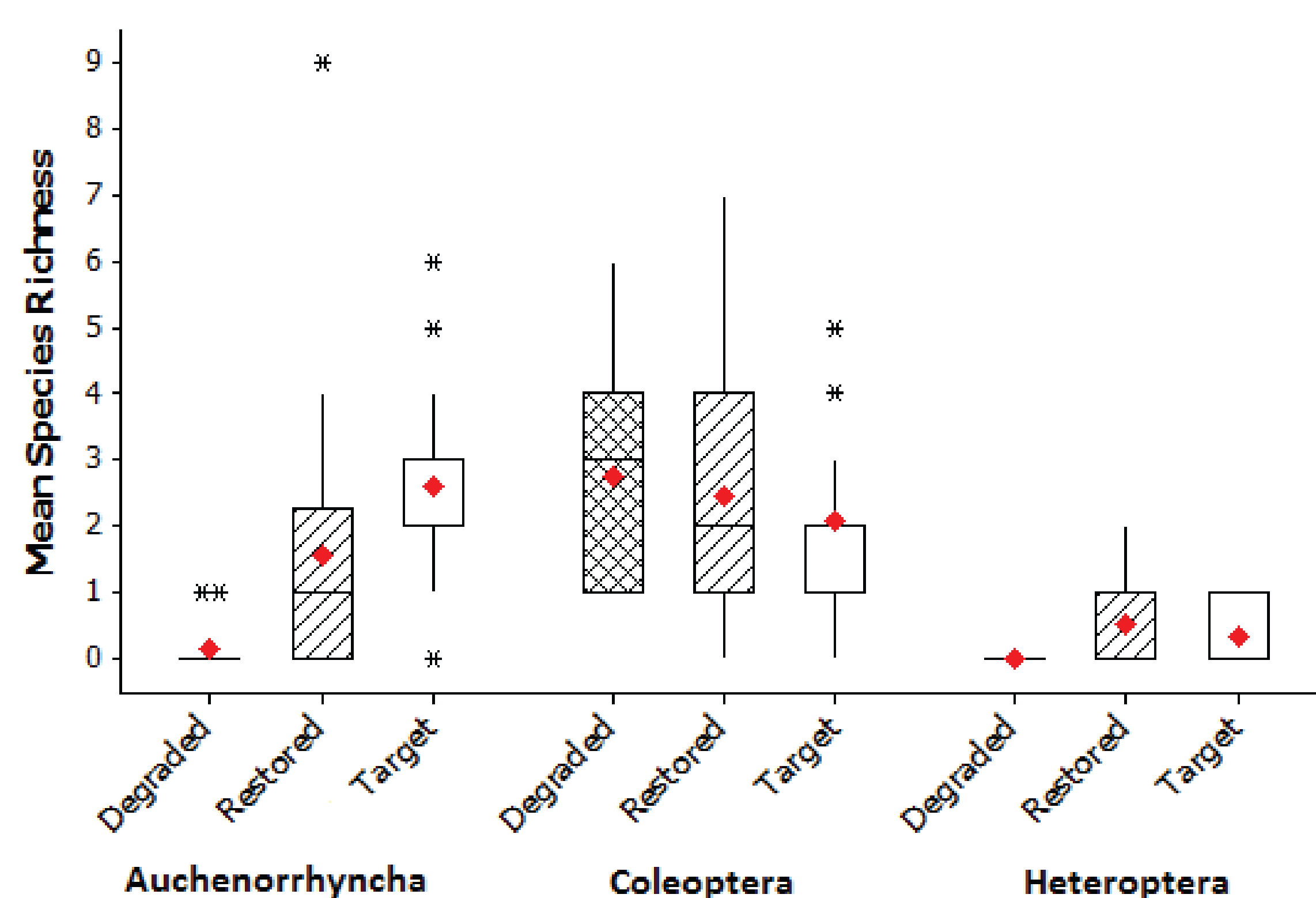
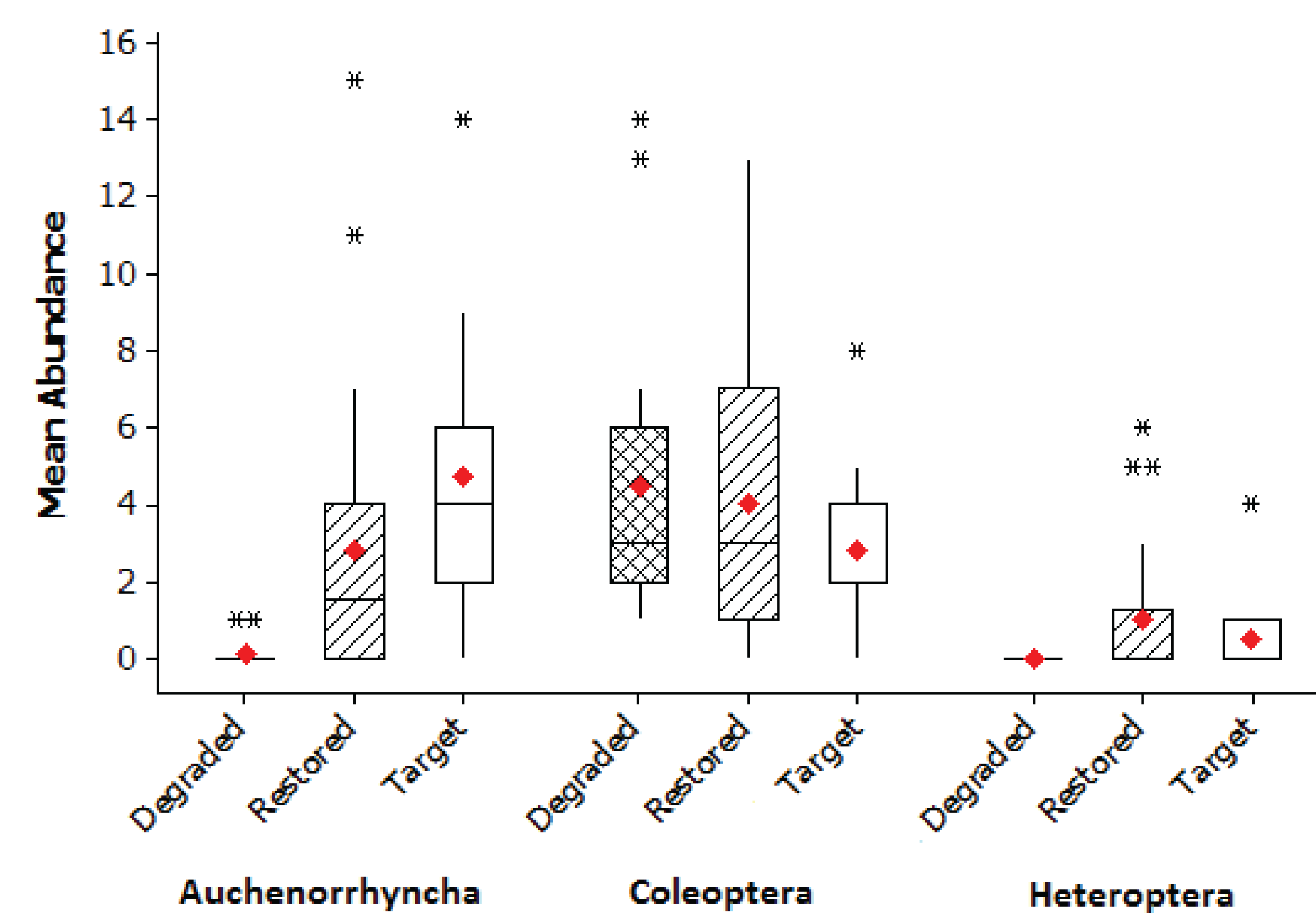


*Planaphrodes bifasciata*, a species commonly found in upland and boggy areas across the UK, host plant may be grasses in the Poaceae.



*Acalypta nigrina* (Lacebug).

- Very few Hemiptera specimens found on the forest floor.
- Auchenorrhyncha benefit most from restoration to bog.
- Some species (e.g. *Planaphrodes bifasciatus*, *Ulopa reticulata*) are far more characteristic of bog sites than restored sites.
- Coleoptera perform slightly better in forest compared to bog.
- Generally few Heteroptera found across treatments.



## What comes next?

- 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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