Mesofauna Communities in Soil: Key Drivers at the National Scale

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Introduction

- Welsh Government has implemented Glastir as part of its commitments to CAP
- The Glastir Monitoring & Evaluation Programme (GMEP) has been designed to report ongoing results from Glastir
- Mesofauna are important, but often overlooked, components of the soil ecosystem
- Their response to Glastir interventions could be crucial to understanding the delivery of ecosystem services from soil biota

Methods

- Samples collected from sites across Wales in 2013 and 2014
- Mesofauna were extracted at CEH Lancaster using the Tullgren funnel method and identified to Order and/or Family level at Bangor University and CEH Lancaster
- Broad habitats assessed by linear mixed effects models with post-hoc testing
- Community composition assessed by NMDS with ANOSIM analysis
- Correlations with physical/chemical variables explored through RDA

Results

- Preliminary results show trends in broad habitat consistent with the literature of the British Isles; mesofauna abundances are lowest in intensively harvested land and naturally inclement habitats³,⁴
- Community structures are similar in habitats with similar physical/chemical properties
- We posit the positive correlation between Oribatid mite abundance and soil water repellency stems from fungal abundance²; we plan to test this using ITS data

Summary of Findings

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Acknowledgements & Literature Cited