Moist, Warm or Rocky?

Identifing Drivers of Fungi Guild Abundance Across Gradients in Norway

1 BACKGROUND

Fungi are vital to ecosystems, driving nutrient cycling, carbon storage, and plant health through diverse ecological roles. This study focuses on three fungi guilds that represents a wide range of fungal functions ; **saprotrophs, lichenized and ectomycorrhizal**

2 HYPOTHESIS

How does different patterns (land cover, climate and alpha diversity) influence the **abundance** of saprotrophic, lichenized, and ectomycorrhizal fungi across mainland Norway.

3 METHODS

Fungi occurrence records were downloaded from GBIF, grid cells with fewer than 50 records were excluded (**Figure 1**). Climate variables were obtained from seNorge2018, land cover data were sourced from CORINE.

FUNGI DITRUBUTION SITES

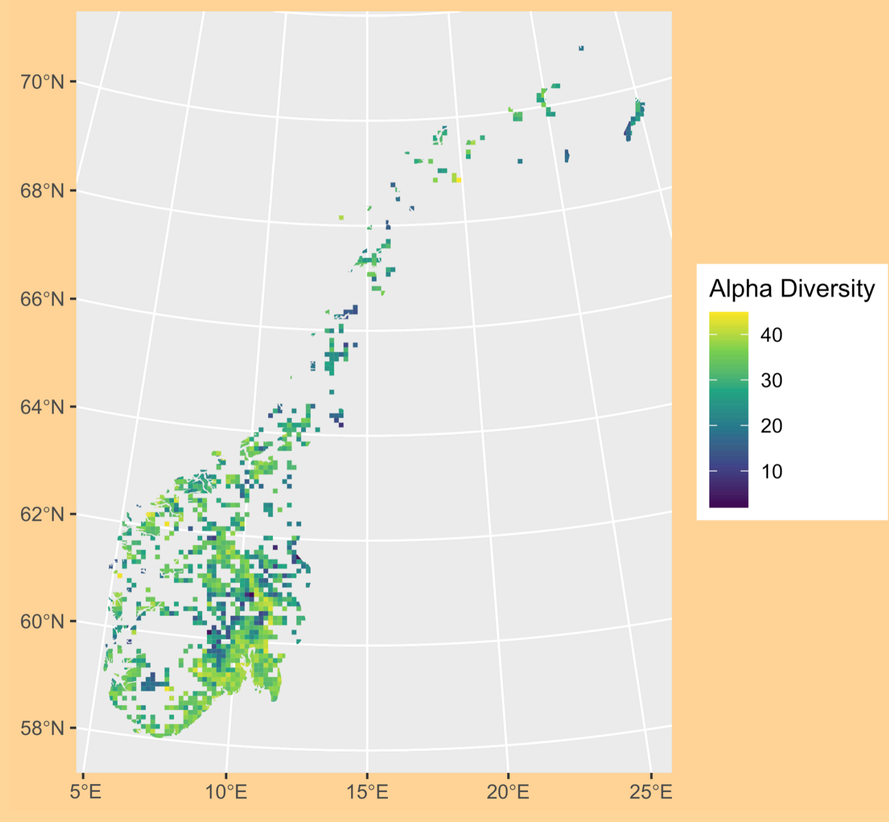

Figure 1: Fungi general alpha diversity of investigated area in cells with number of observations above minimum threshold.

RELATIVE ABUNDANCE AMEs

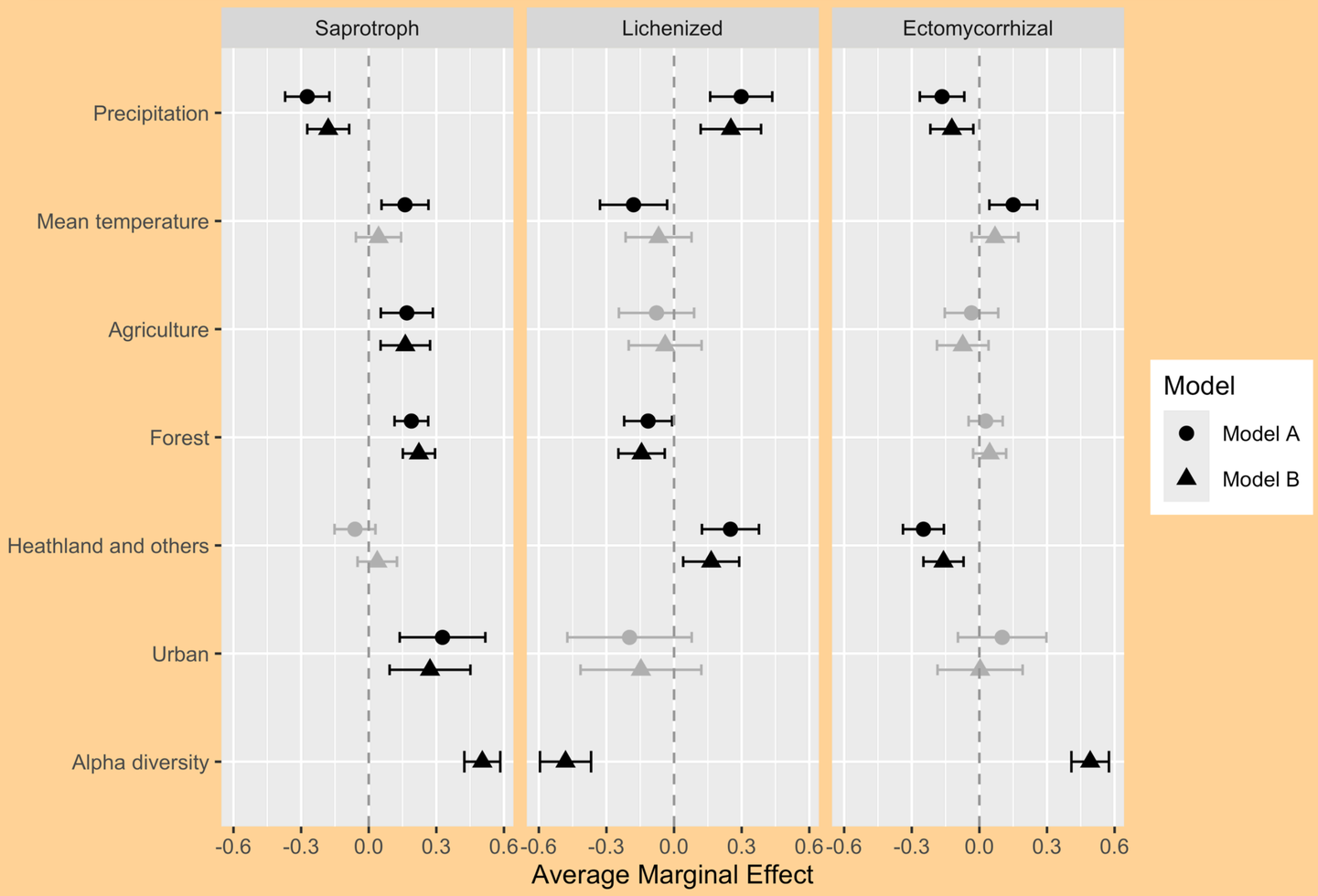

Figure 2: Average marginal effects of the beta regressions. Model B includes genera alpha diversity as a predictor which was not included in the calculation of Model A. Circles and triangles indicate the AME for each coefficient and guild in the respective model. Error bars indicate 95% CI. Non-significant predictors are greyed out.

4 MAIN FINDINGS

Climate:
Saprotrophic, ectomycorrhizal: low precipitation, high temp.
Lichenized: high precipitation, low temp.

Land Cover:
Saprotrophic: + forest, agricultural, urban
Ectomycorrhizal: - heathland
Lichenized: + heathland, - forest

Fungal α-diversity:
Saprotrophic, ectomycorrhizal: + α-diversity
Lichenized: -α-diversity

5 TAKE-HOME MESSAGE

Saprotrophic and ectomycorrhizal fungi show higher relative abundance in **warmer and drier regions**, whereas lichenized fungi increase in **colder and wetter areas**.




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