

Inferential Tests and Modelling of Functional Trait Convergence along Environmental Gradients

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The motivation for this paper comes from a recent study which indicated that the influence of environmental filtering should increase with decreasing soil fertility, based on the premise that individuals will employ a resource-retentive strategy in a less productive ecosystem. Mean annual temperature (MAT) is one indicator of the productivity of the ecosystem. We aim to build a more accurate model of environmental filter and want to statistically test whether the environmental filter is stronger when the MAT is lower compared to when it is higher. Our findings throw an interesting insight into how the trait variability changes as a function of MAT and how it could be better modelled.

Key Words: Bayes factors, Likelihood ratio test, Environmental filter, Markov Chain Monte Carlo, Trait based community assembly

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