

Analysing:

1) Biodiversity of ant communities along an elevational gradient and

2) Taxonomic composition of arthropods along plant diversity gradient in the Jena Experiment

Course: Quantitative Community Ecology in R

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Task 2)

Data analysis

To extract the main gradients of arthropod composition, we performed a principal component analysis (PCA) on the Hellinger-transformed species matrix (Legendre & Gallagher 2001). The data transformation was applied due to high differences in the abundances of the individual taxa. By subsequently taking the square root of the relative species abundances, the importance of dominant species groups is reduced (Borcard et al. 2011).

Subsequently we fitted vectors onto the plot ... following the approach of Legendre & Gallagher (2001).

Results

The PCA projection revealed important changes in arthropod composition along the plant diversity gradient. Axes 1 and 2 represented 58.44% of the variance of the Hellinger-transformed species matrix.

- using `envit()` function

Transformation of environmental data:

- we have presence absence data (functional plant groups)
- and we have species diversity data (2,4,8,16) of sown species, do we need to transform them into categories (1,2,3,4,5)?

Further Notes:

Here is a paper from the Jena Experiment dealing with anthropodes and plant diversity:

<https://doi.org/10.1016/j.baae.2017.09.014>

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