ECORNET: AN R PACKAGE FOR THE QUANTITATIVE MODELING OF ECOLOGICAL NETWORKS

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1. Summary

Community analyses have typically left species inter-corrlation information un-untilized. Here we present software to:

(1) Conduct ecoinformatics with large community datasets
(2) Model community networks of species relationships using species inter-correlations present in community datasets
(3) Calculate distances between network models for distance-based analyses

2. Introdution

- Information about relationships among species (either through direct interactions or responses to evironmental variation) is valuable for inferring the dynamics of communities.
- Quantitative modeling of species interactions can be traced back to the assembly rules paper of Diamond (1975) which proposed that the outcome of competitive exclusion could be inferred quantitatively.
- Currently, quantitative ecologists are advancing methods to infer species relationships at even finer scales of resoltion in the context of complex communities.
- Here, we present software written in the R programming language that provides tools to conduct quantitative modeling of inter-species relationships based on species correlations.
- In addition, we present a set of functions to analyze the effects of ecological factors on the structure of community networks.

3. Package Description

4. A Worked Example

5. Results and Discussion