Summary

Introduction

Functional Ecology → Functional Traits

Importance of Functional Traits to understand Ecological Niche

Multidimensional Niche (Hutchinson), Competitive Exclusion, Environmental Filtering

Importance of all axes to have good view of ecological strategies

Diameter Growth & Tropical Forests → French Guiana Context

Several growth models created, used → estimate growth using measured traits

Generally consider traits as specific, all individuals of the same species sharing an average trait

However, there is trait variability, intra-specific variability. What importance does it have? To what extent is it important to consider it?

Being different from mean species trait → importance?

Materials and Methods

Data Provenance

Growth Data

The nine plots used through this article, Guyafor network, plots, French Guiana, map. Several sites Longitudinal data.

Followed over tens of years. Diameters were measured at breast height (1.3m), during the following period we had Diameter at Breast Height (DBH) values for each tree.

Due to various inconsistency of followed year. Choose a common time period between plots. To estimate Annual Growth Rate (AGR), we regressed DBH over years, taking the slope of the regression as the AGR.

Trait Data

Bridge database, traits measured in Baraloto, (Baraloto et al., 2010).

Growth model

Linear mixed-model explaining annual growth rate. With plot and species random effect.

Extracted residuals from above model.

Data analysis

Used R, ggplot2, lmer, dplyr, MuMin for R2 for mixed-models.

Results

Discussion

Authors Contributions and Acknowledgments

References

Baraloto, C., Timothy Paine, C. E., Patiño, S., Bonal, D., Hérault, B. and Chave, J. (2010). Functional trait variation and sampling strategies in species-rich plant communities. Functional Ecology *24*, 208--216.