Shifts in ecological strategies at inter and intraspecific levels of woody plants in forest-grasslands mosaics

What theory tells us?

Functional traits → Species occurrences across contrasting habitats

Use-resource strategies

Forest-grassland mosaics

Grassland: Conservative resource strategy
Low specific leaf area and thick leaves

Forest: Acquisitive resource strategy
Large leaf area

How did we evaluate?

9 sites of forest-grassland mosaics in southern Brazil where wood individuals were surveyed

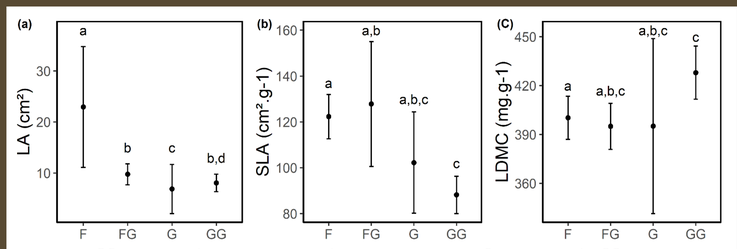
Leaf area (LA), specific leaf area (SLA), leaf dry matter content (LDMC) were collected for each species per habitat (forest and grassland)

1. FD and PD: Mean pairwise distance
To FD, we decoupled the overlap of information between functional and phylogenetic information

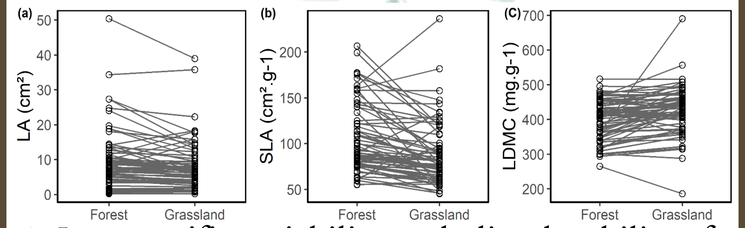
2. ANOVAs combined with Tukey's post hoc comparisons

3. T-tests

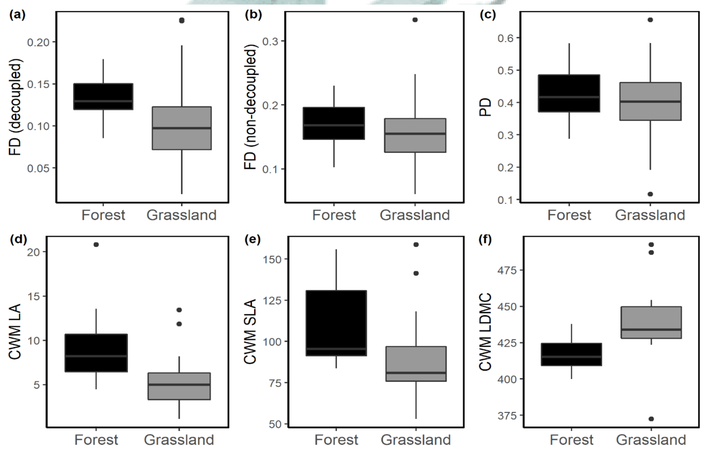
What did we learn?



➡ Different letters indicate significant differences among habitat preferences ($p < 0.05$)



➡ Intraspecific variability underlies the ability of species to persist in these contrasting habitats



➡ Although the communities have a similar evolutionary history, forest communities allow a greater range of trait variation, contrasting with grasslands

➡ Forests: higher LA and SLA values and lower LDMC than grasslands

What did we evaluate?

1. compare functional (FD) phylogenetic diversity (PD), and functional composition (CWM) among forests and grasslands;

2. evaluate if forest, grassland, and generalist species (those species occurring in both forest and grassland) have distinct leaf traits;

3. evaluate shifts in the leaf traits of generalist species

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