

From Connectivity to Fragmentation: Understanding Biodiversity Patterns in Aquatic Networks

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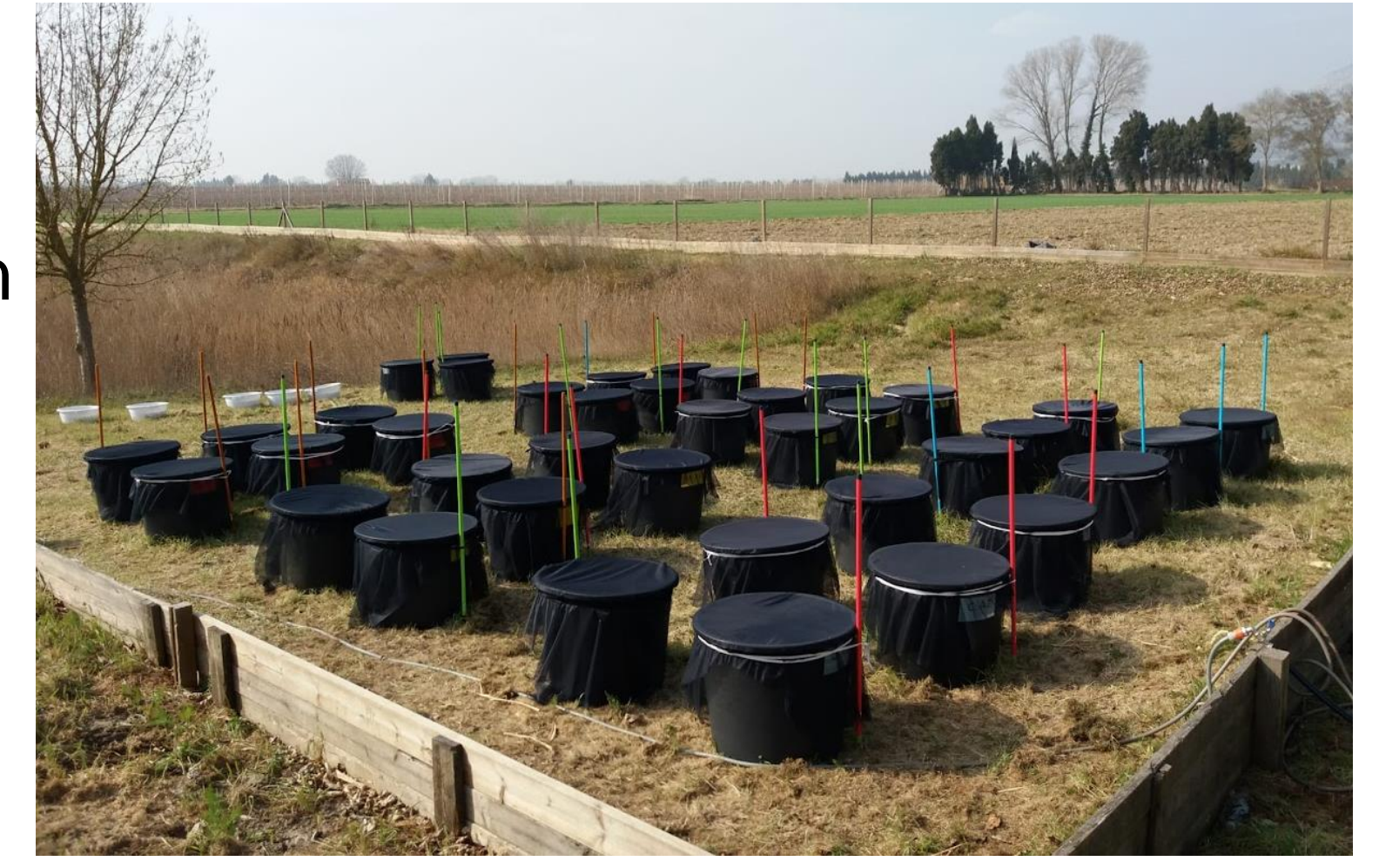
INTRODUCTION

Spatial connectivity and dispersal are key drivers of metacommunity assembly, shaping patterns of biodiversity across landscapes. However, changes in ecosystem connectivity, such as habitat fragmentation, represent a significant threat to these dynamics and the maintenance of biodiversity. In this study, we experimentally tested the effect of fragmentation in eukaryotic and prokaryotic community diversity.

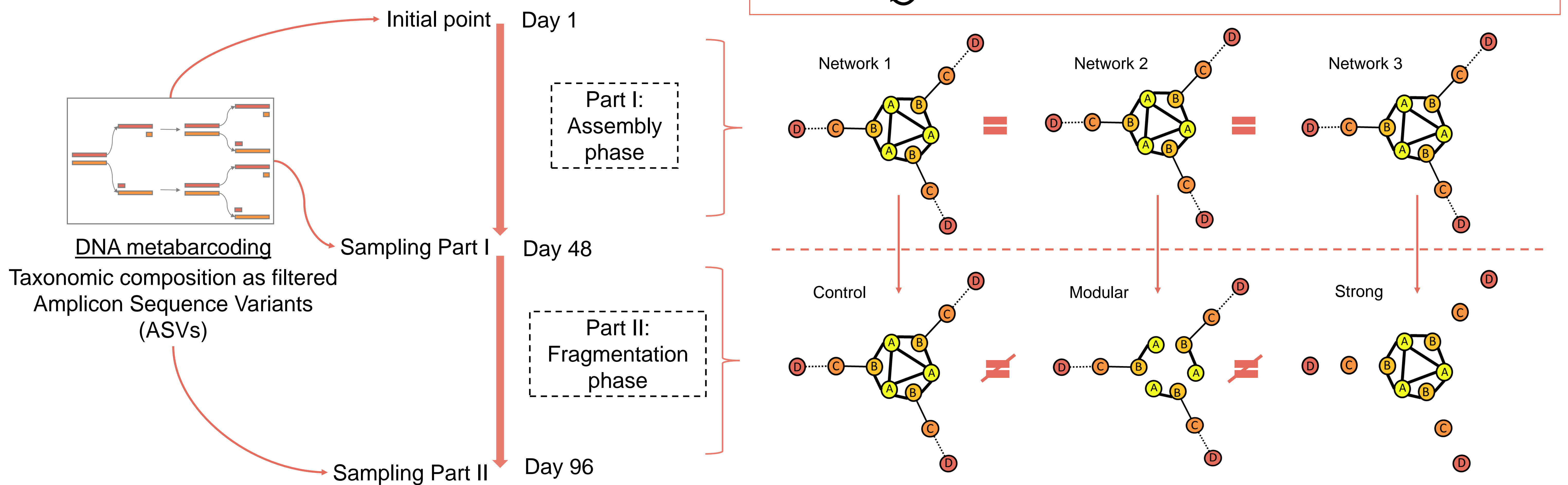
OBJECTIVES

To assess the effect of fragmentation on biodiversity:

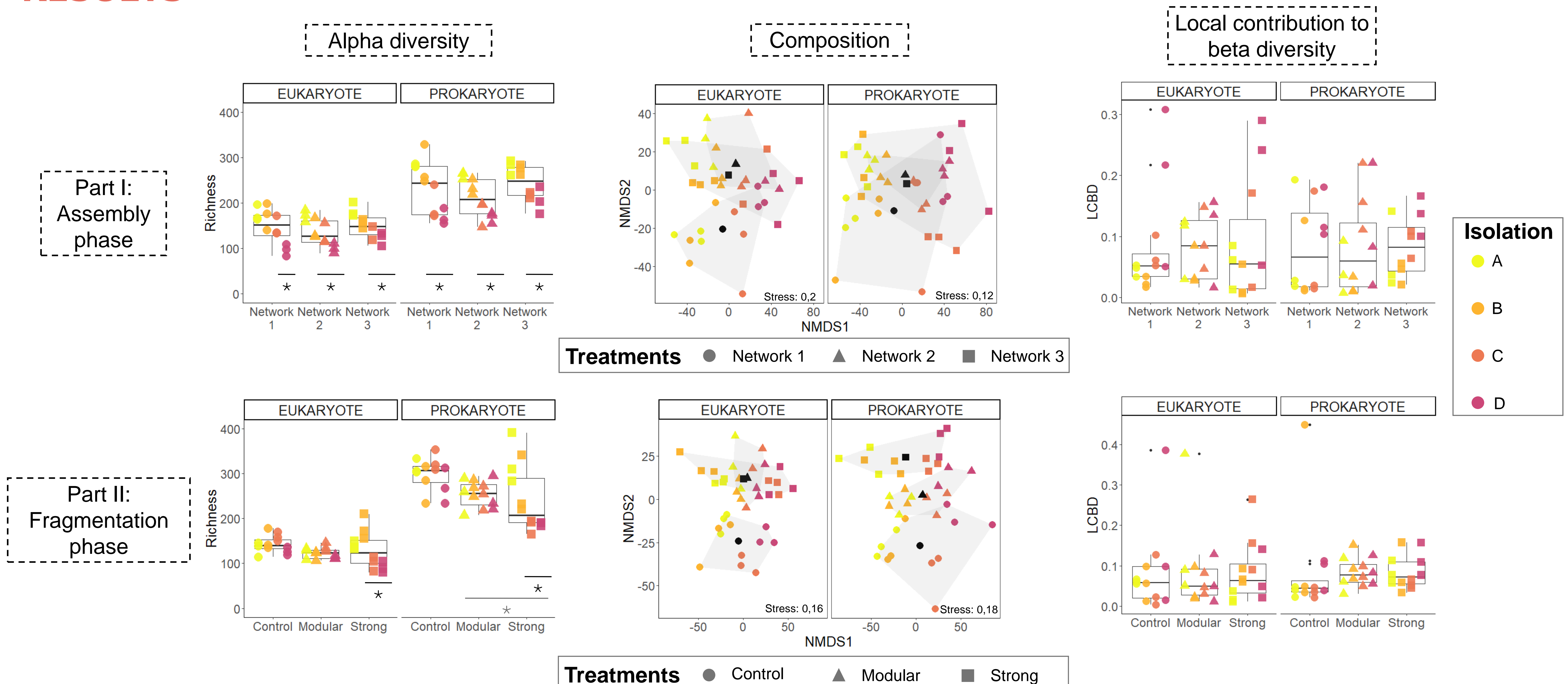
1. Richness values.
2. Composition.
3. Local contribution to beta diversity (LCBD).



MATERIALS & METHODS



RESULTS



CONCLUSIONS

1. There is an effect of fragmentation in both communities. Strong treatment showed lowest richness in most isolated mesocosms.
2. Higher compositional dissimilarities were not observed in Modular and Strong treatments. However, we observed a compositional divergence among treatments and compositional differences according to the isolation.
3. LCBD is responding differently depending on the community.
 - Eukaryotic community showed an increase in LCBD in B and C mesocosms of Strong treatment, whereas Modular treatment exhibited no clear pattern.
 - LCBD of prokaryotic community is not affected by fragmentation.