

Can gap cutting help to preserve forest spider communities?

Ferenc Samu¹, Zoltán Elek¹, Jana Ruzickova², Erika Botos¹ and Péter Ódor³

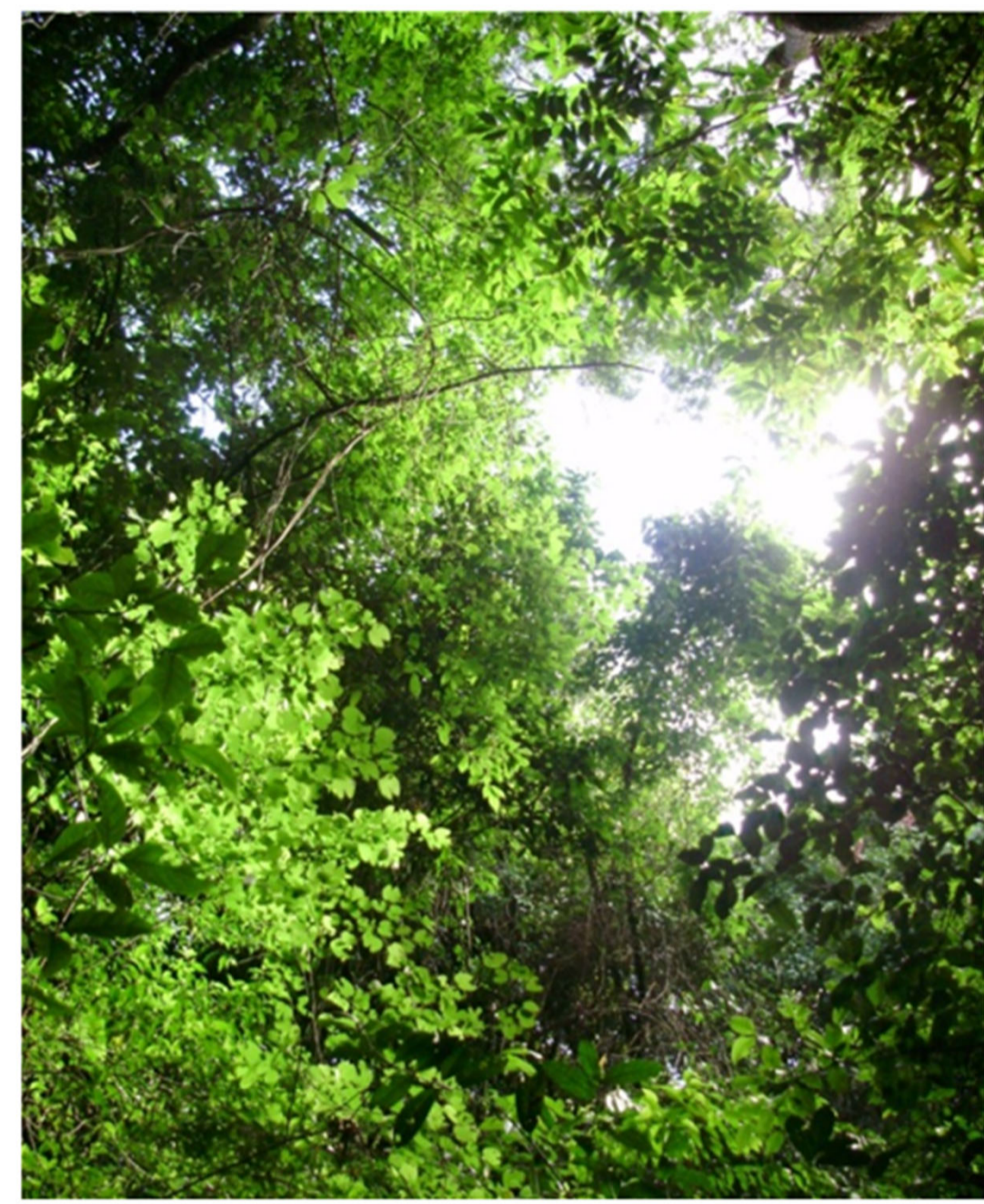
¹Centre for Agricultural Research, Plant Protection Institute, ELKH, Budapest, Hungary

²ELKH-ELTE-MTM Integrative Ecology Research Group, Budapest, Hungary

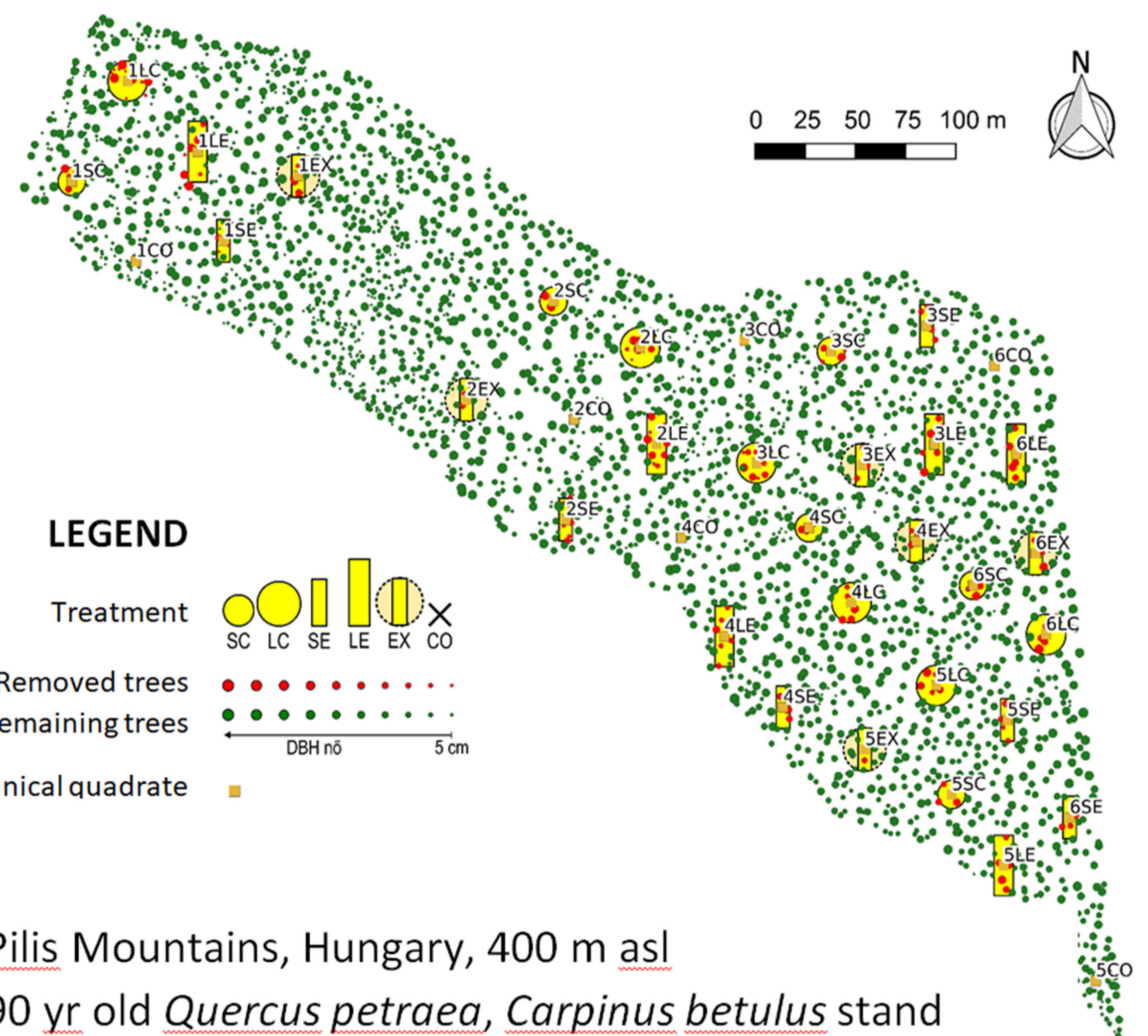
³Centre for Ecological Research, Institute of Ecology and Botany, ELKH, Vácrátót, Hungary

Motivation

Continuous cover forestry is a more natural management system that performs better in mitigating climate change and preserving biodiversity. One way of implementation is **gap cutting**, which by the formation of artificial gaps mimics natural forest dynamics. We wanted to know how different implementations of gap cutting affect forest spider communities.

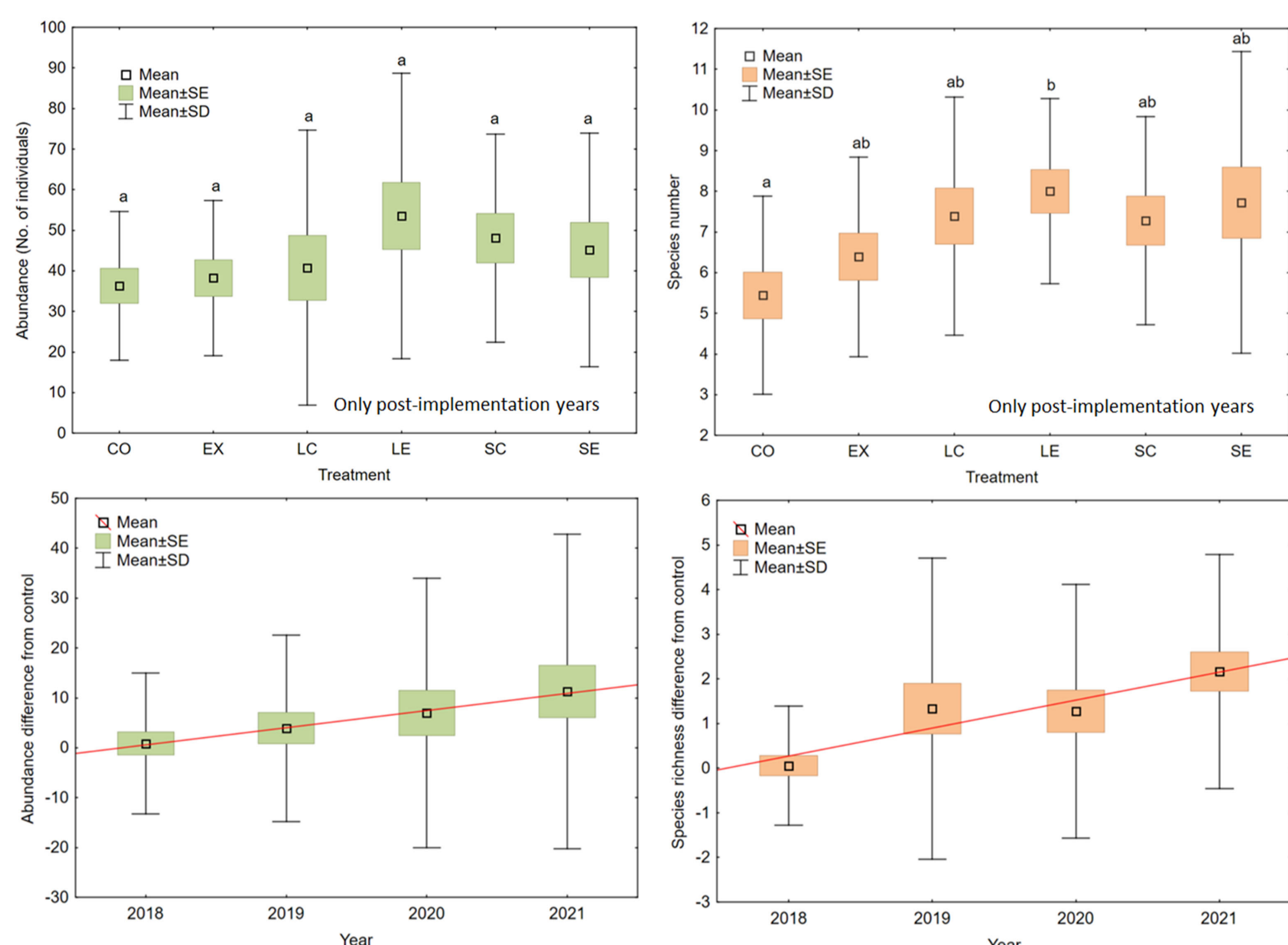


Experimental design

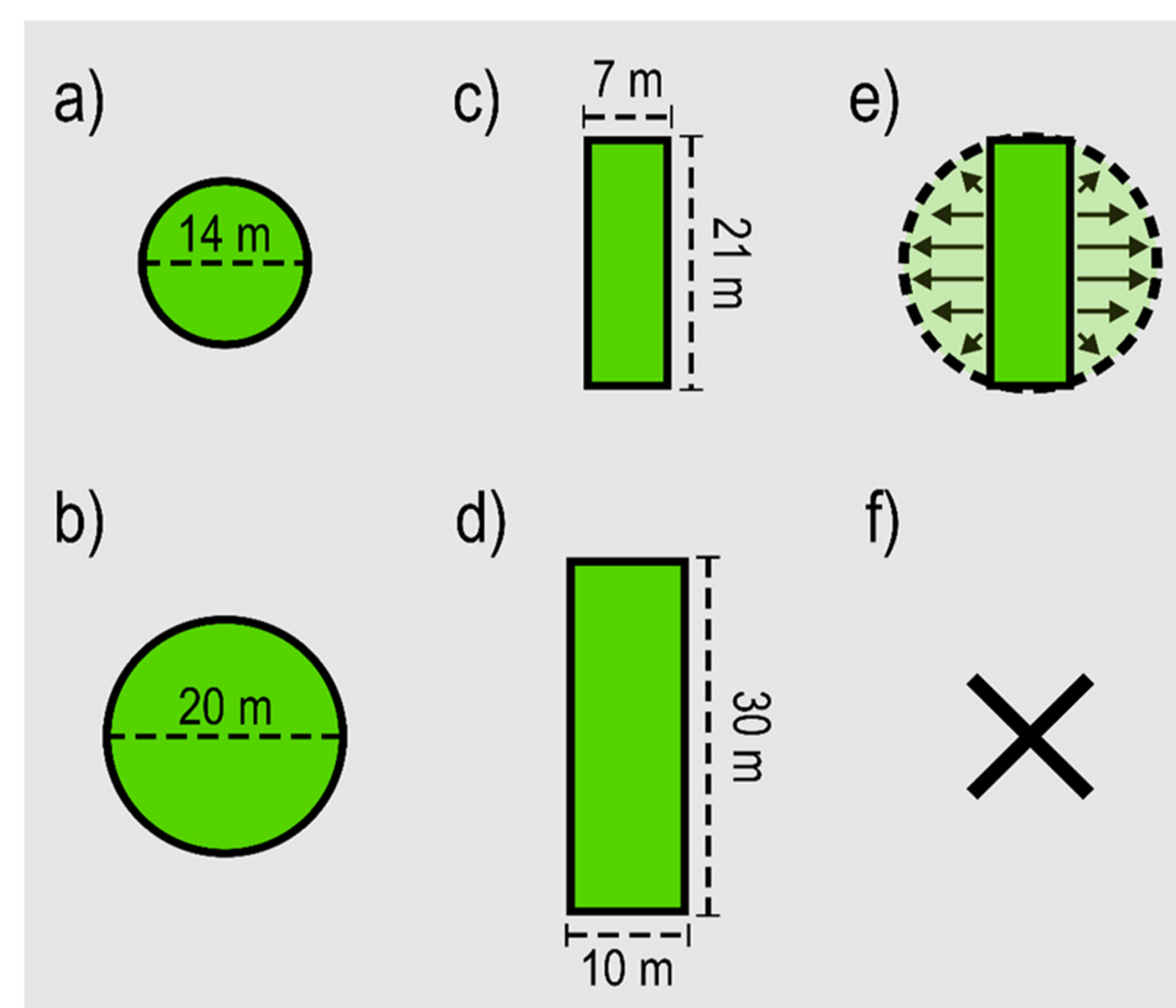


- Pilis Mountains, Hungary, 400 m asl
- 90 yr old *Quercus petraea*, *Carpinus betulus* stand
- 6 blocks x 6 treatments complete block design
- BACI (before-after-control-impact) design, 2018 before treatments; 2019- after treatments
- 3 pitfalls per plot, 2018-2021, June & October sampling

Abundance and species richness

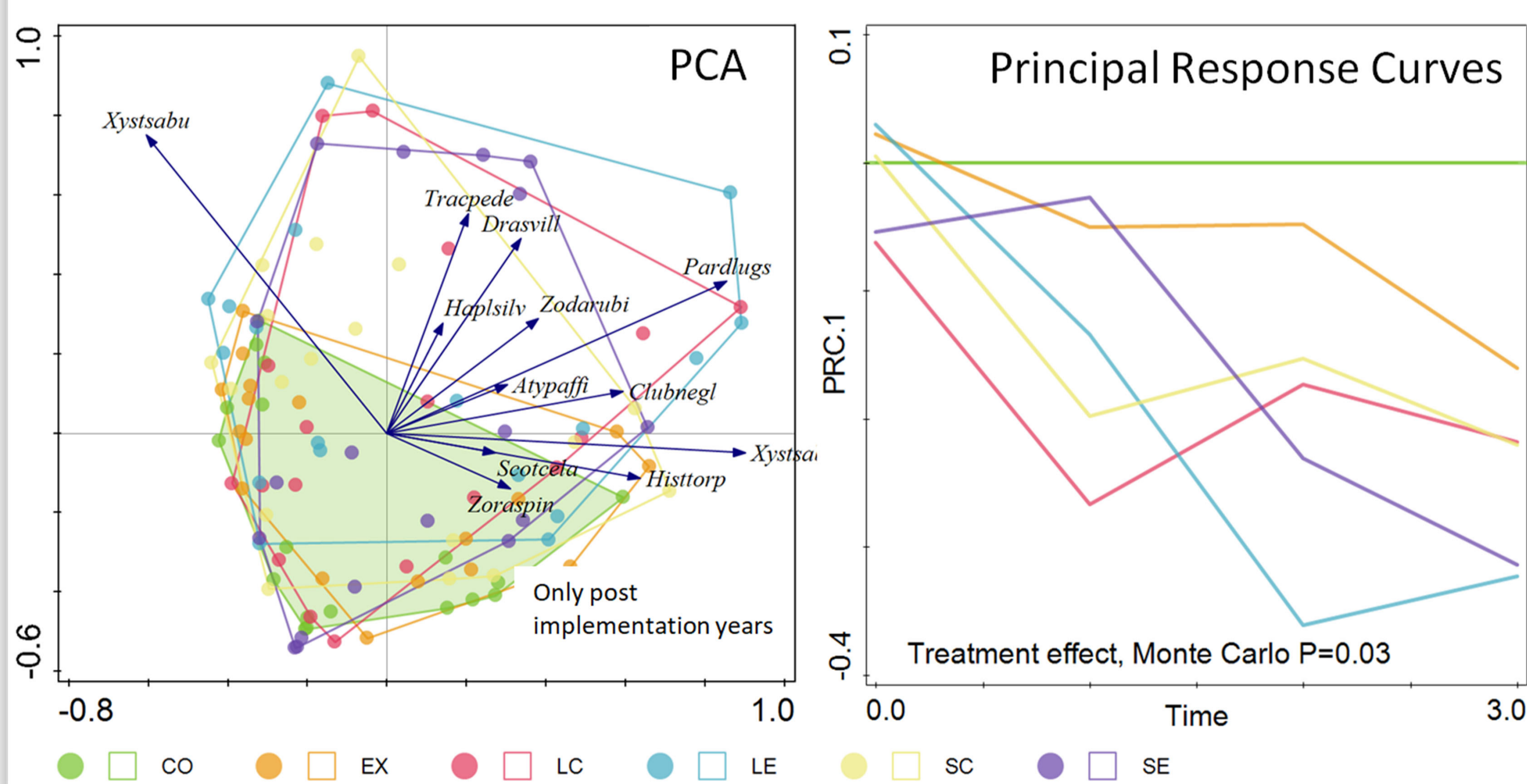


Treatments



Gap types: a) SC, Small Circular; b) LC, Large Circular; c) SE, Small Elongated; d) LE, Large Elongated; e) EX, Extended – to be extended in 3rd-4th year of the experiment; f) CO, Control - original closed forest;

Community response



Discussion

- Gap cutting induced only minimal changes in spider communities
- Species richness was overall higher in gaps
- Over time gap communities gained higher abundance and richness, moderately diverged, indicating beta diversity increase
- Gap shape, size had no specific effect
- Gap cutting is a recommendable practice to preserve spider diversity

Acknowledgements

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