

Impacts of coppicing on woodland butterflies

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Motivation

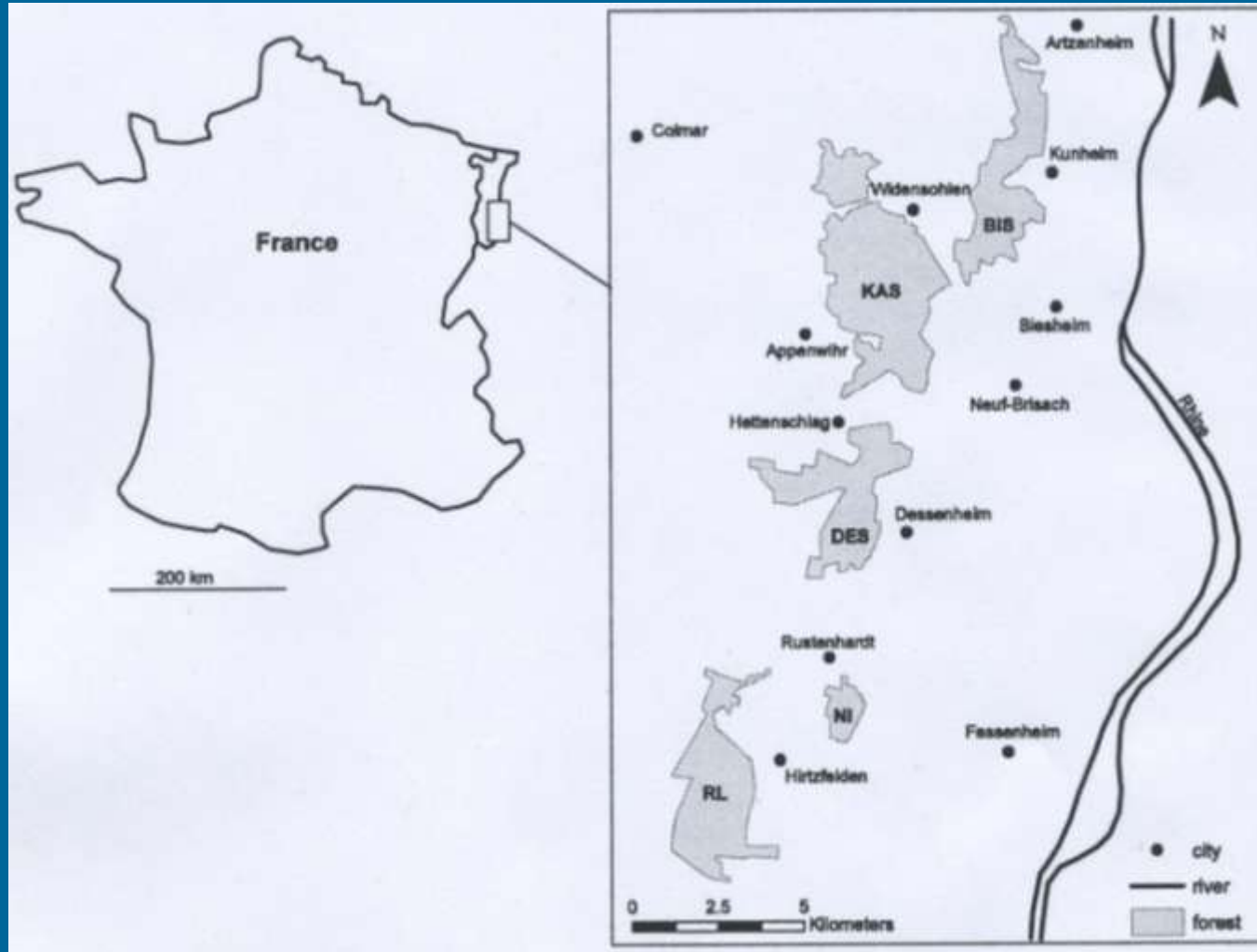


Coppice with standards



Modern high forest

Study area



Successional stages



Clear cut



2nd year



Fringe



Shrub



Wood



Aims

- (i) Do butterfly species richness and abundance differ among the five successional stages?
- (ii) If so, are there differences between resident and migratory species?
- (iii) Which stages are the most important for threatened species?

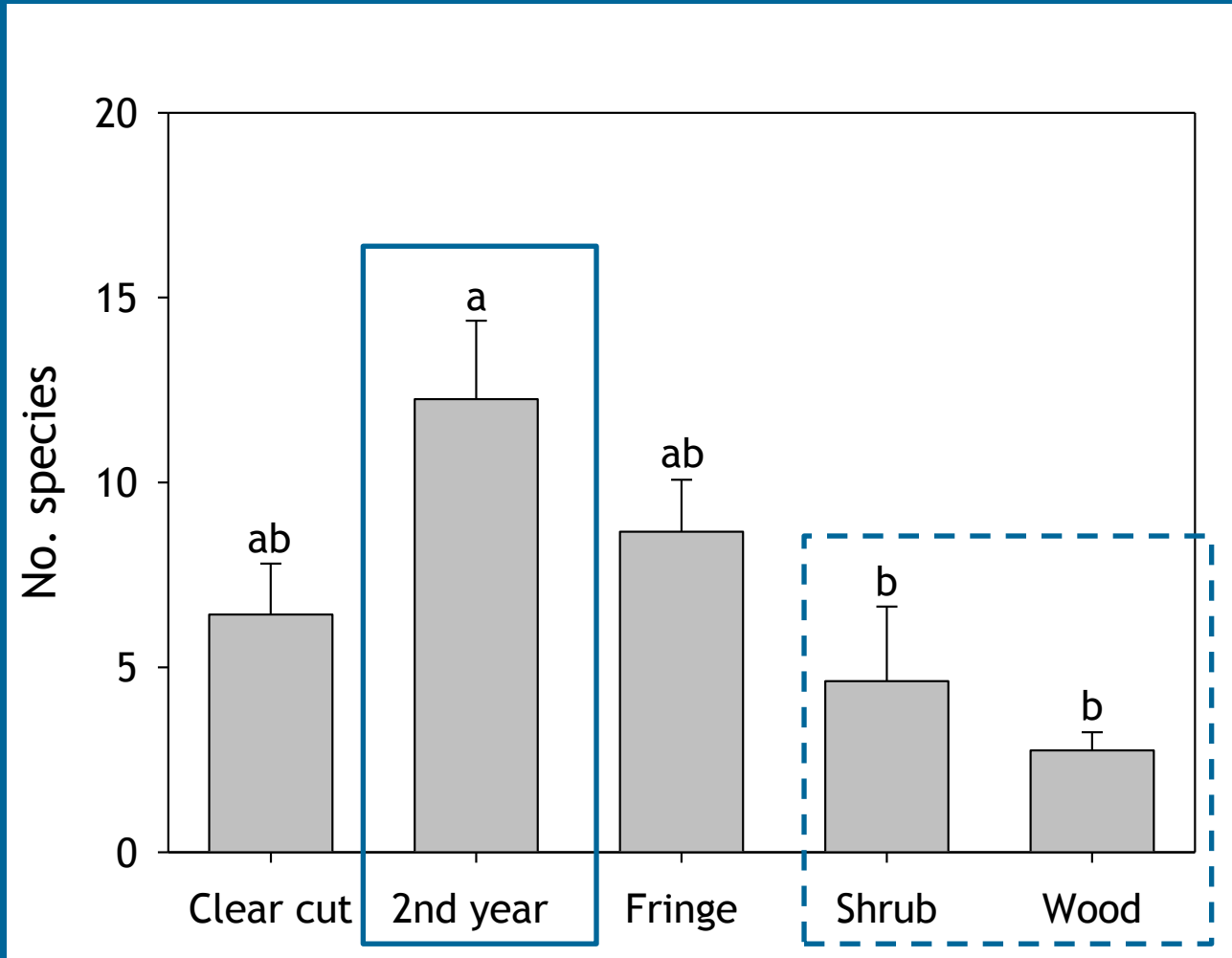


Sampling design

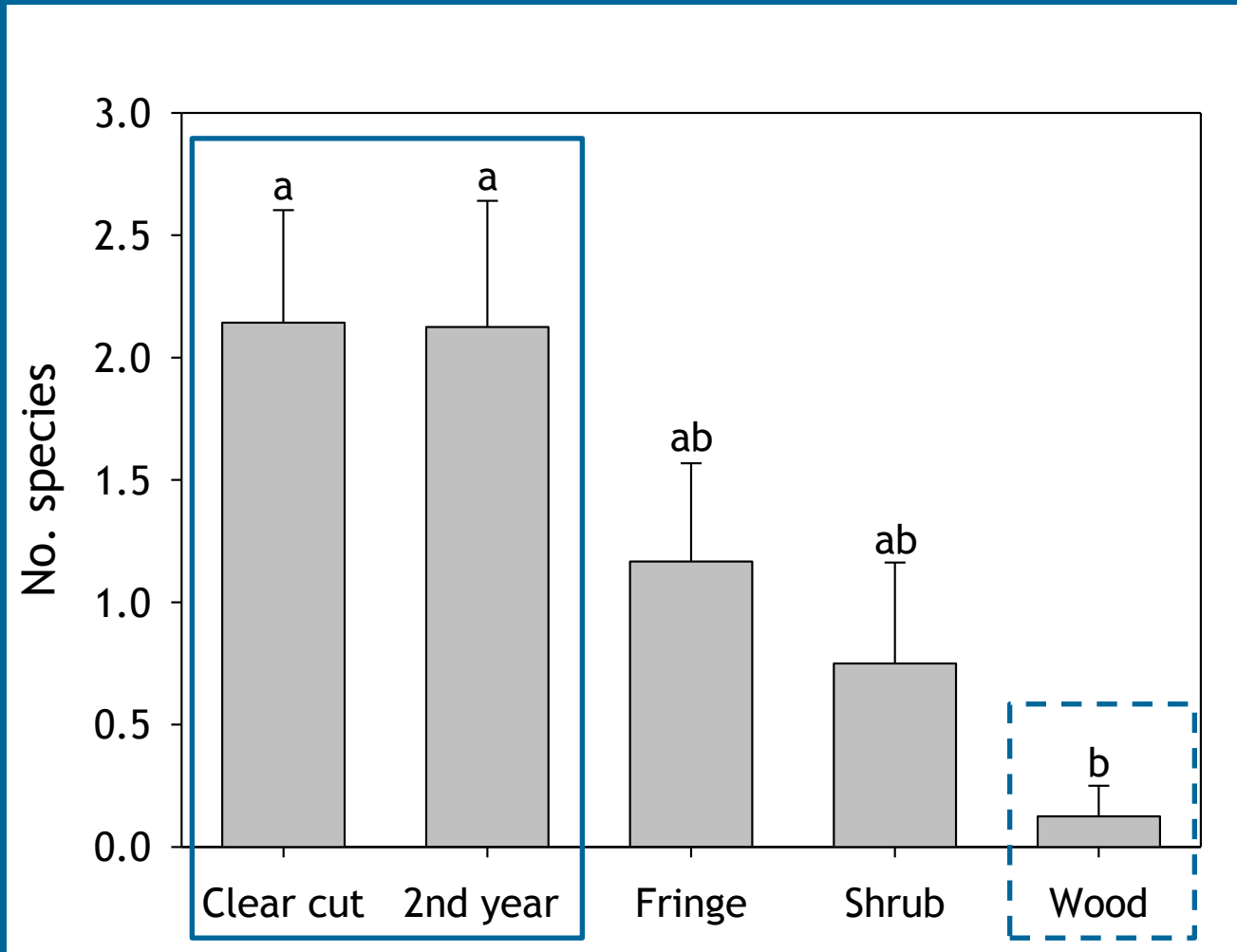
- 5 study areas
- 37 plots (500 m²); 7–8 plots for each successional stage
- Standardized transect walks (9 walks/plot)
- Habitat quality parameters (e.g. host plants, nectar resources)
- Statistical analysis: GLMM with study area as random factor



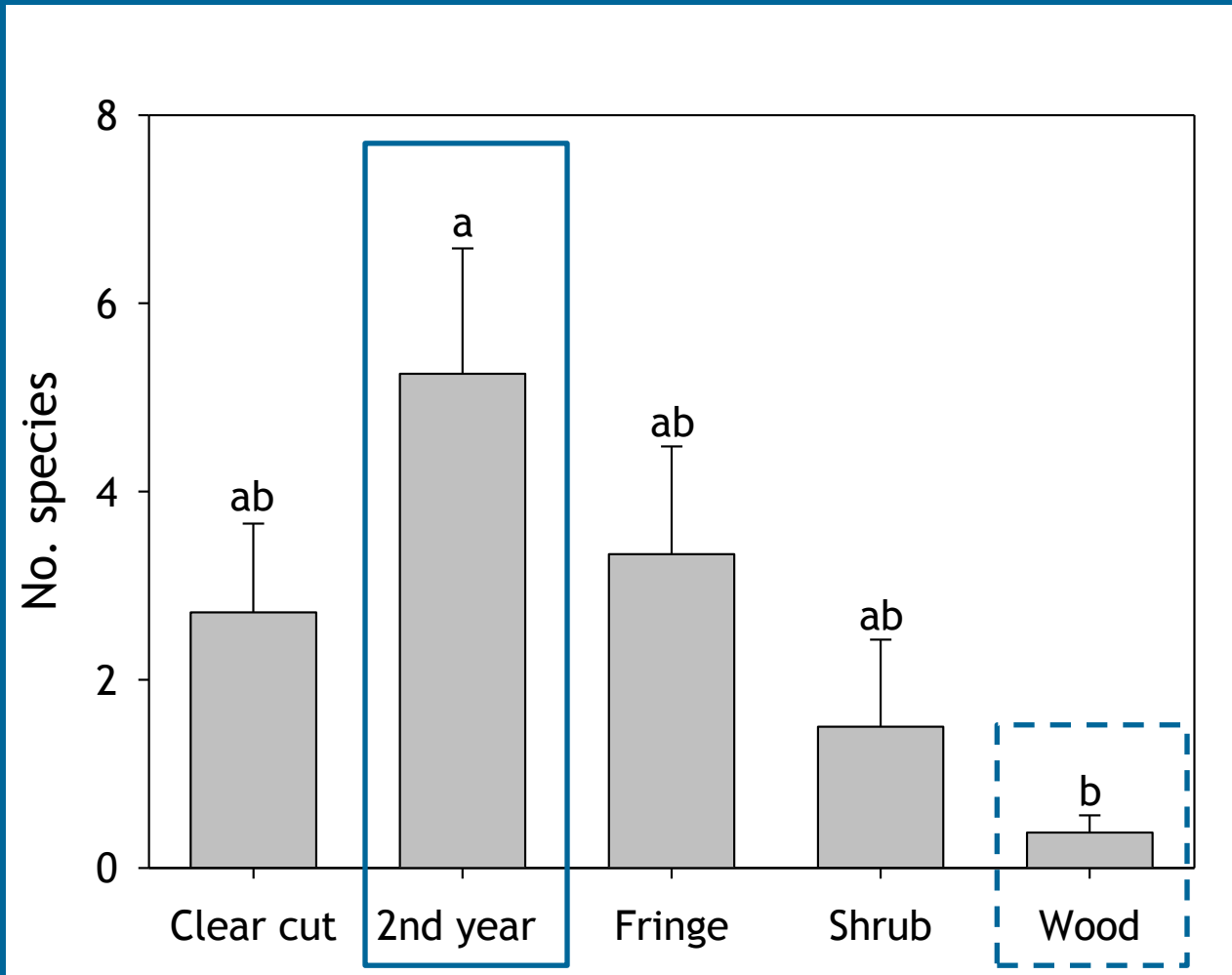
Species richness: Resident species ($N = 30$)



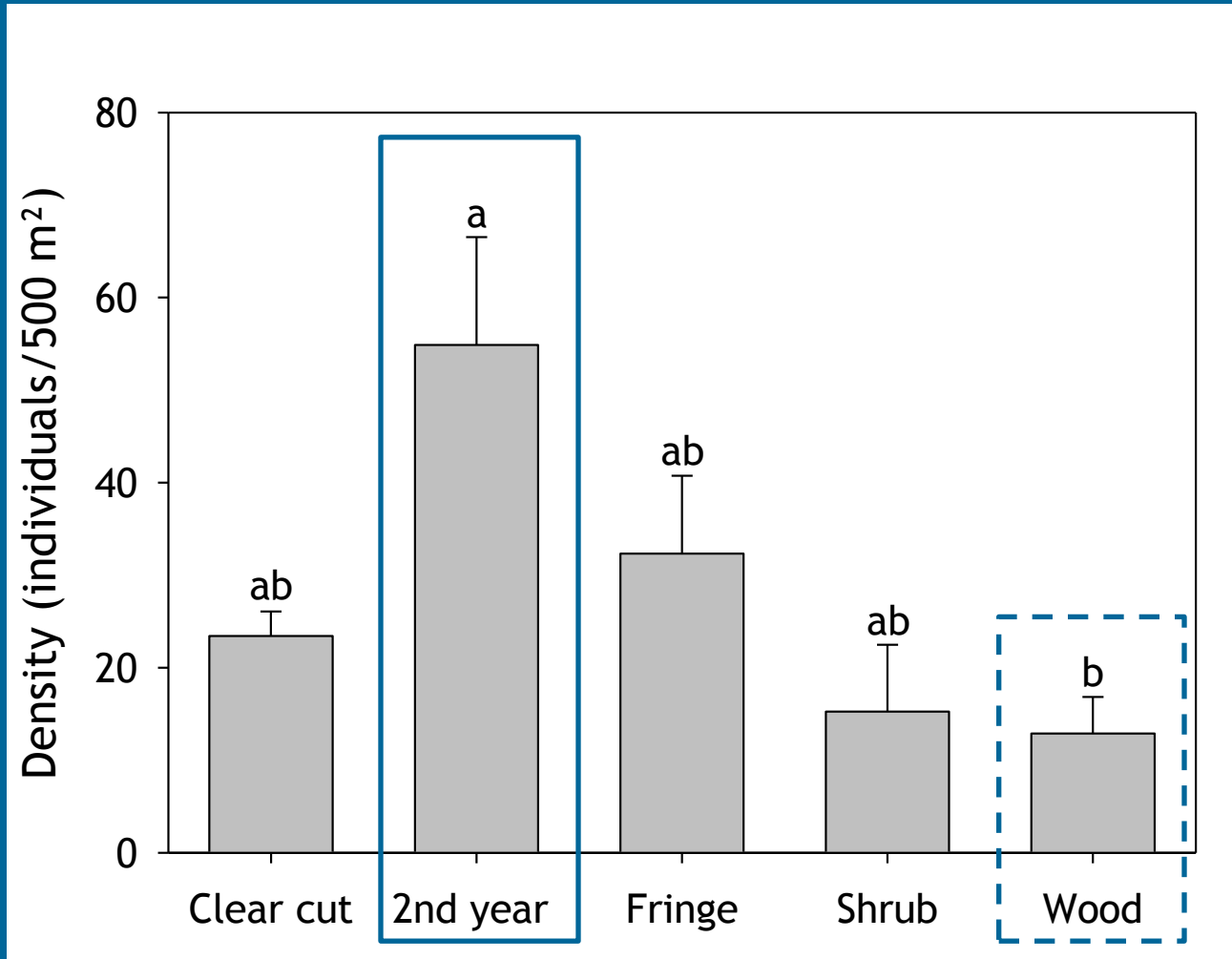
Species richness: Migratory species ($N = 6$)



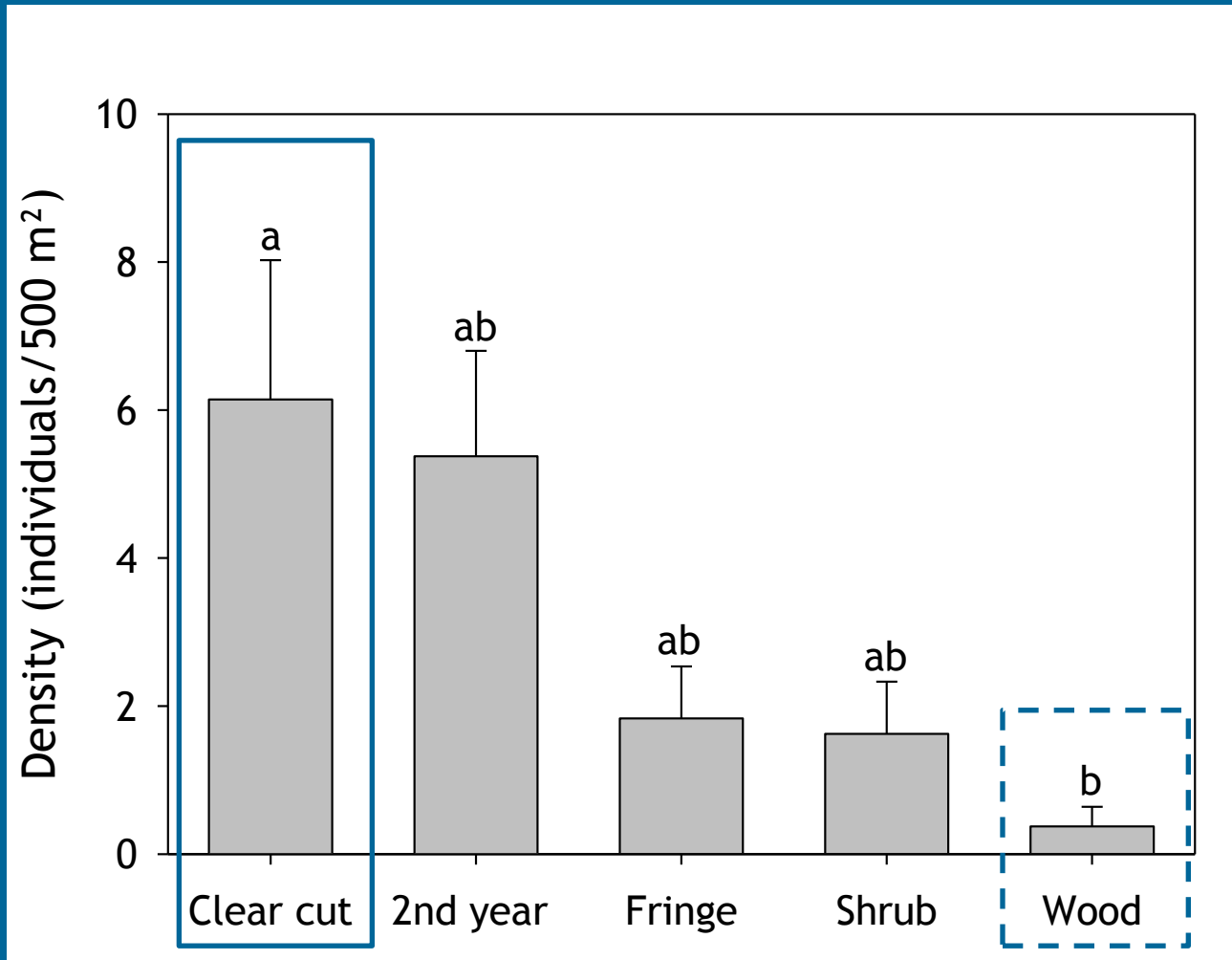
Species richness: Threatened species ($N = 13$)

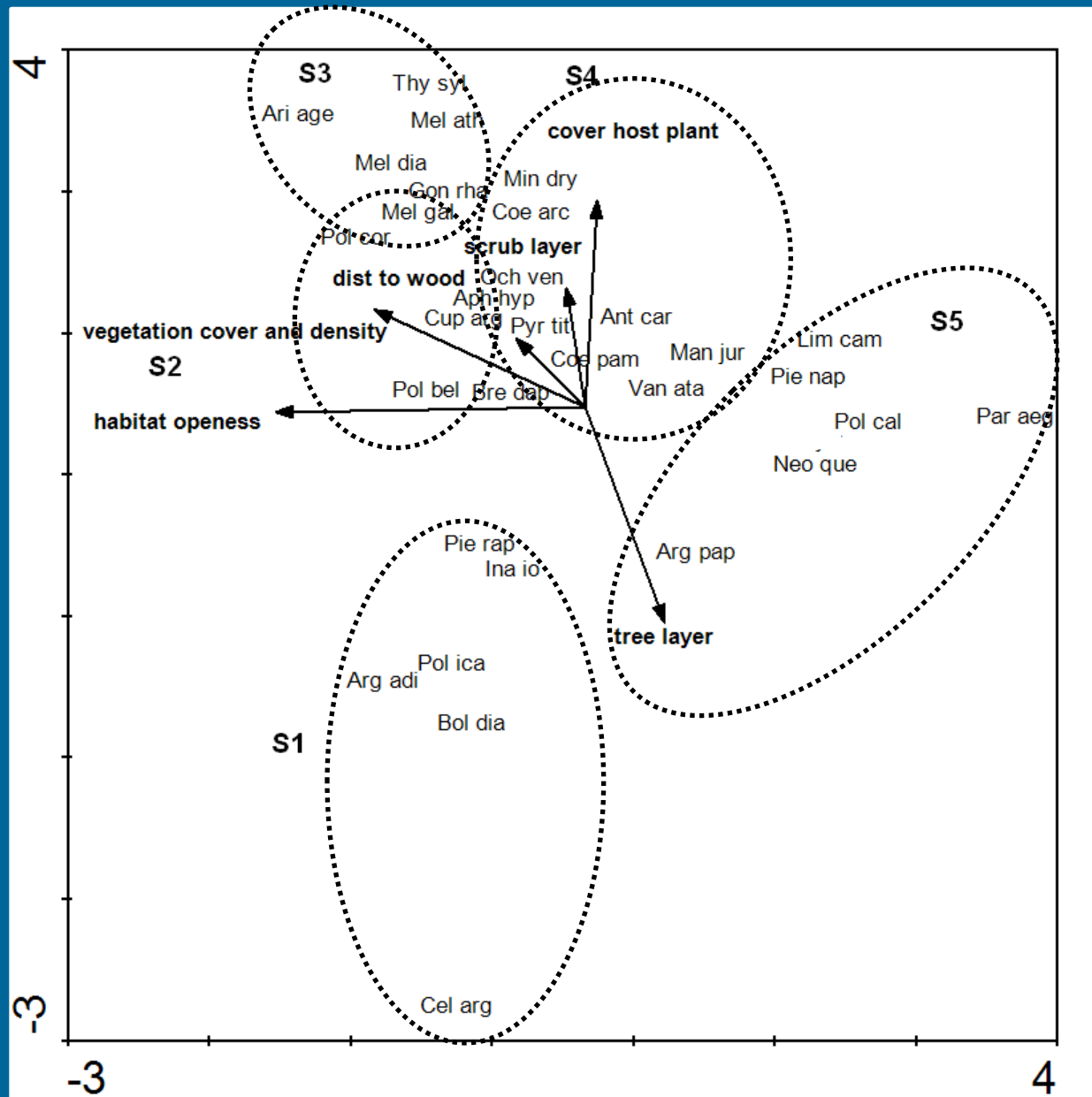


Abundance: Resident species ($N = 30$)



Abundance: Migratory species ($N = 6$)





DCA: Butterfly communities



Take-home message I

- High species number (36), many threatened species (13)
- ➡ **Coppiced woodlands are butterfly diversity hotspots**



Take-home message II

- Species richness/abundance decreased from early (clear cut, 2nd year) to late successional stages (wood)
- ➡ Early successional stages are of high conservation concern
- ➡ Warm microclimatic conditions (all groups) together with a high cover of host plants (resident/threatened species) or nectar resources (migratory species)
- Each successional stage has characteristic species
- ➡ All stages are necessary to secure diversity of woodland butterflies
- ➡ Coppicing is a valuable tool to promote woodland butterflies



Thank you for your attention!

