



A note on arctic phylogenetic community structure

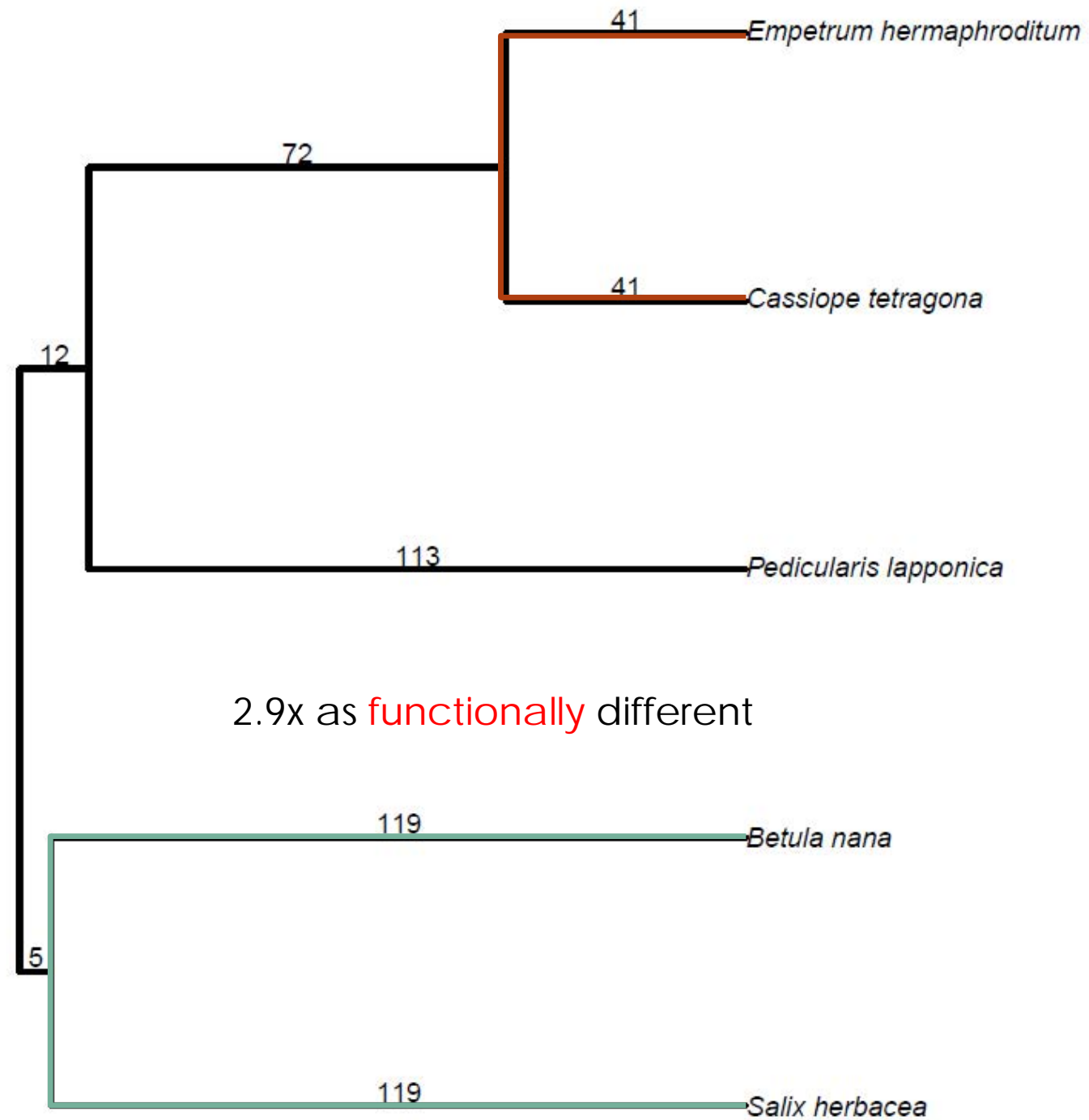
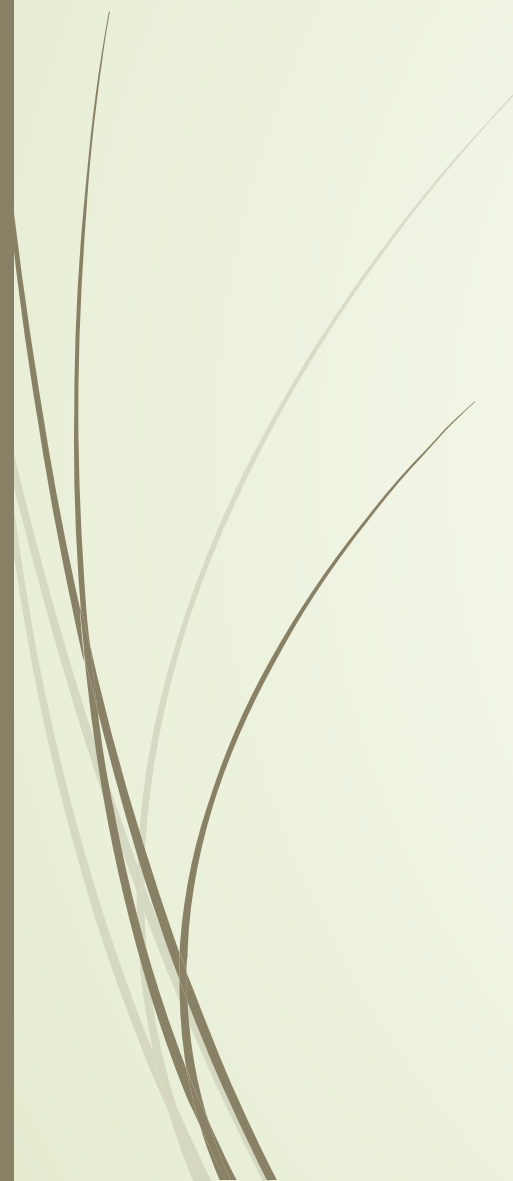
Ruud Scharn
Supervisor: Robert Björk



UNIVERSITY OF
GOTHENBURG



The Swedish Research Council for Environment,
Agricultural Sciences and Spatial Planning



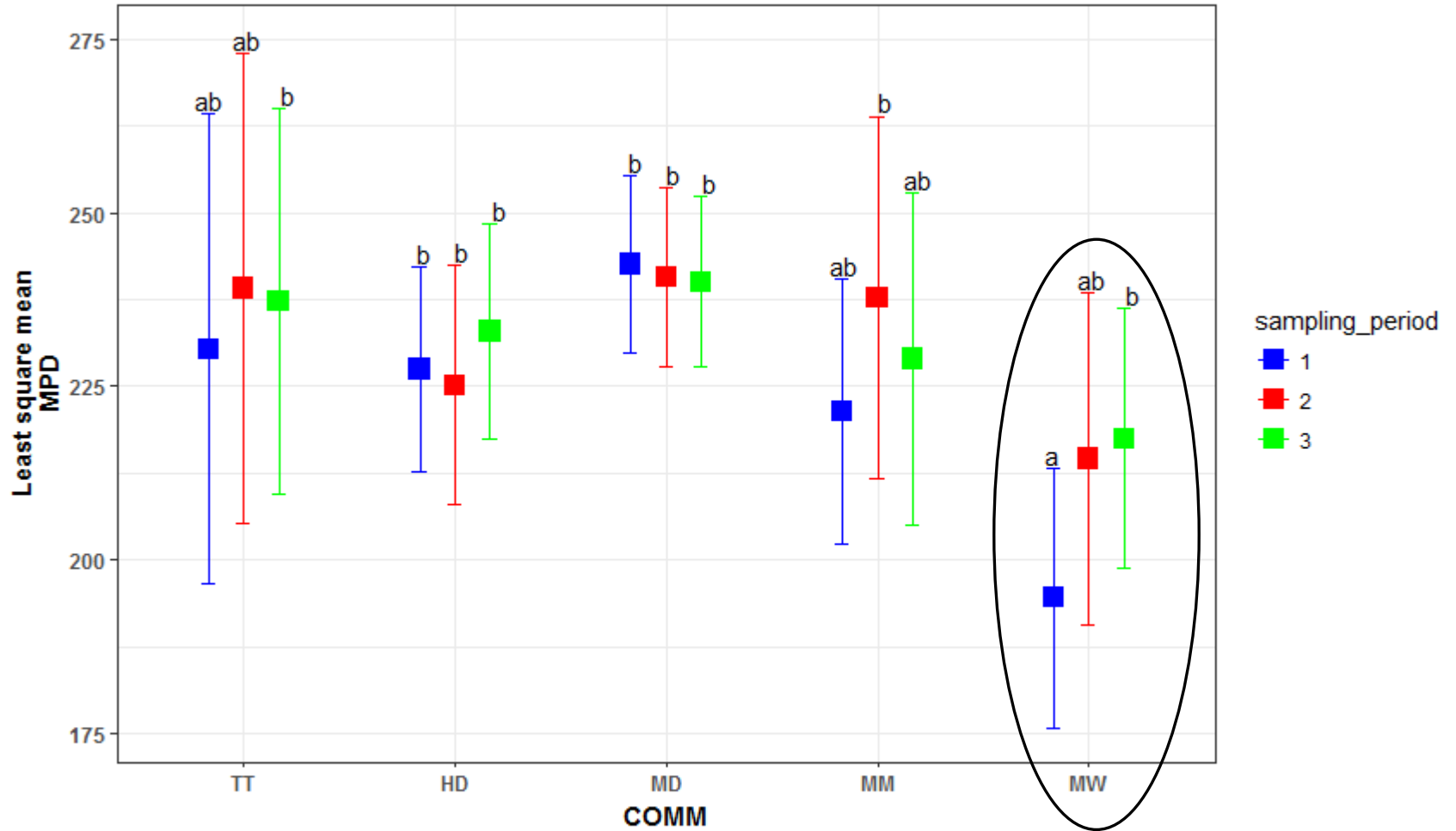
Site

- Latnjajaure, mid alpine
- 5 communities
 - TT Tussock Tundra
 - HD Dry heath
 - MW Wet Meadow
 - MM Messic Meadow
 - MD Dry Meadow
- Looking at MPD
 - Treatment effect
 - Time effect on control



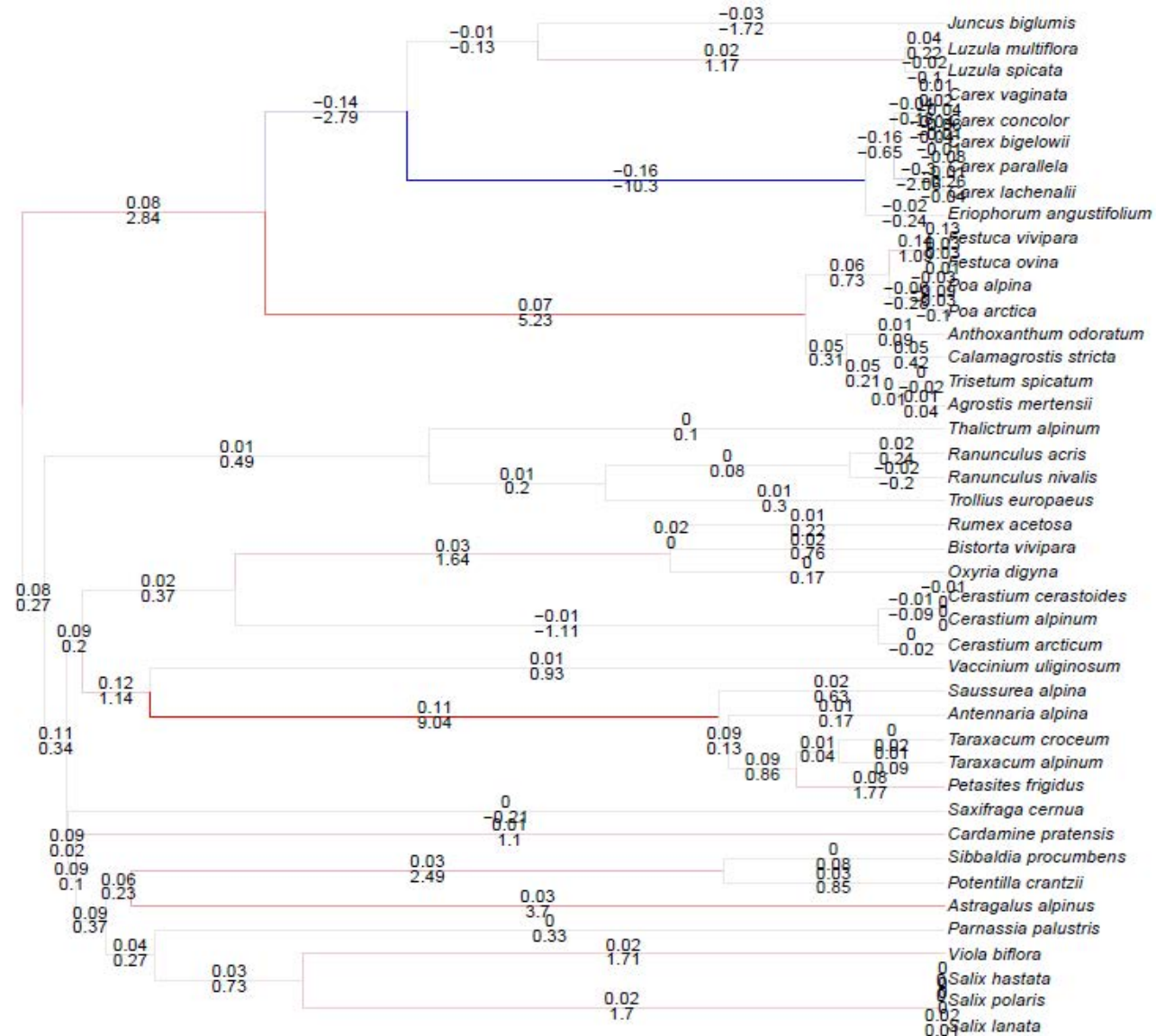
MPD latnja Control

Over three decades



MPD for communities over three time points. Boxes indicate the LS mean. Error bars indicate the 95% confidence interval of the LS mean. Means sharing a letter are not significantly different (Tukey-adjusted comparisons).

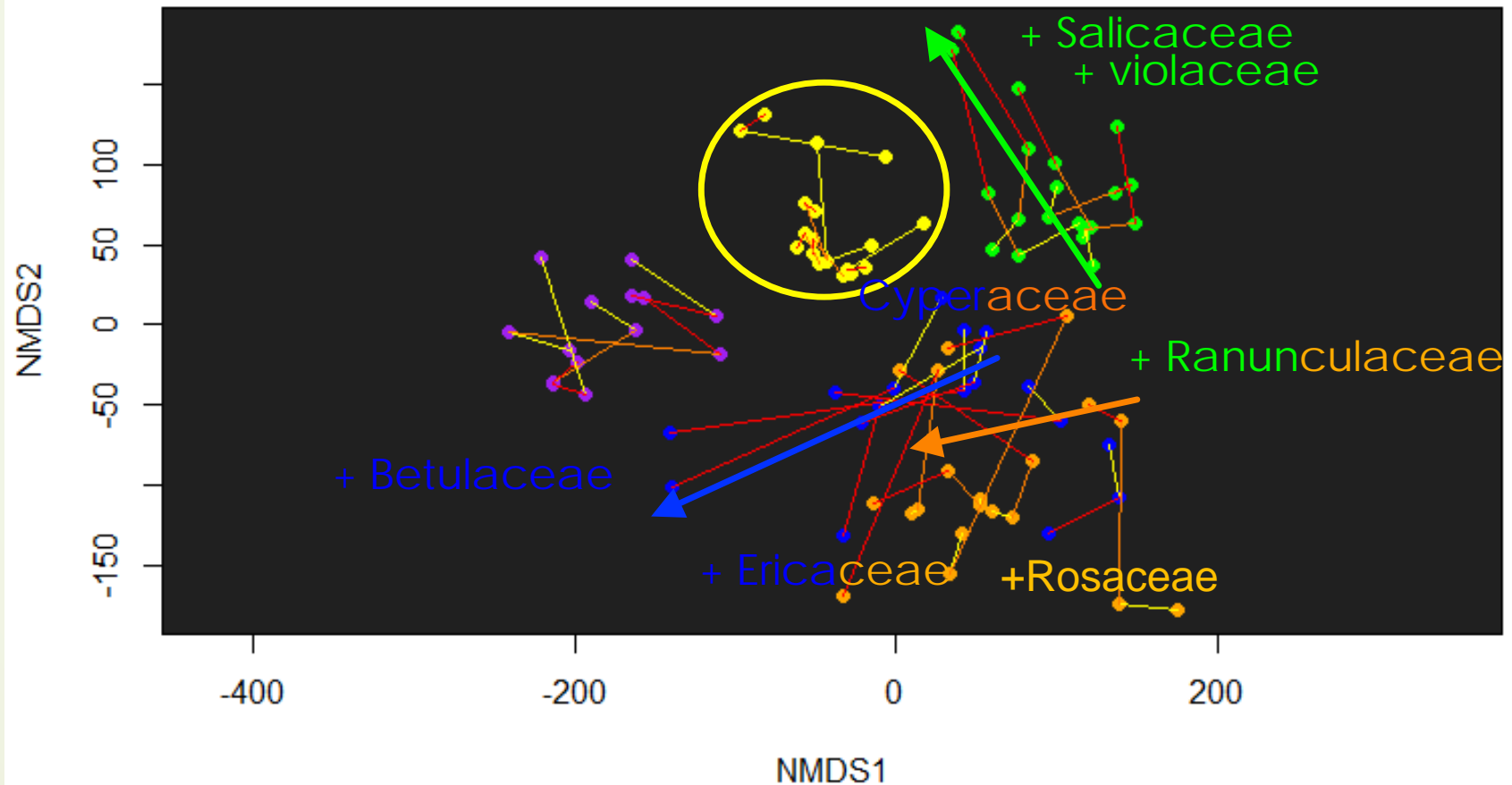
CTL MW period 1 vs period 3 gaining 46.31 mj losing -20.44 mj



Phylogenetic Beta diversity

Dry heath
Tussock Tundra
Wet Meadow
Messic Meadow
Dry Meadow

Treatment





future



- ▶ Look into ways to find "relevant" evolutionary time in phylogeny.
 - ▶ Past adaptations less relevant for current conditions.
 - ▶ Downweighting deeper times?
- ▶ Mixed model on beta diversity analyses.
 - ▶ Suggestions on how?
- ▶ Phylogenetic syntheses of ITEX data
 - ▶ DNA extracted for all plants
 - ▶ Will start assembly of first chloroplast genomes in september

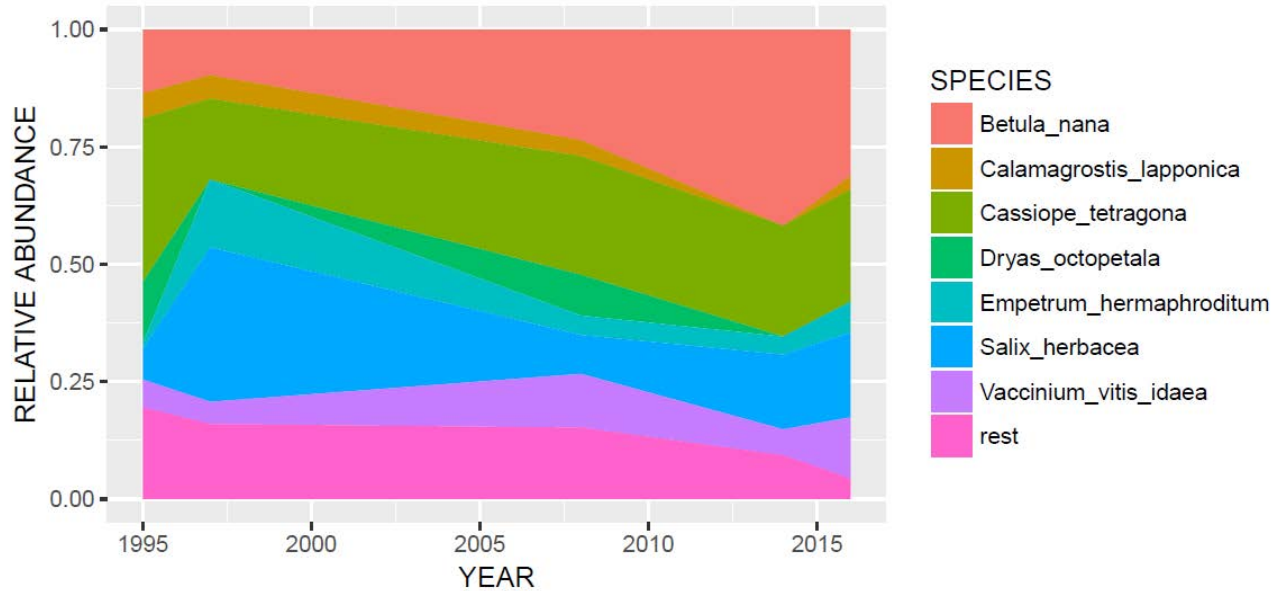


Sampling

Area	1994	1995	1996	1997	1998	1999	2001	2006	2007	2008	2013	2014	2016
HD CTL				Plot 1-3,5									Plot 1-4
HD OTC		Plot 1&2		Plot 1-4								Plot 2-4	Plot 1-4
MD CTL			Plot 1-3									Plot 1,3,5	
MD OTC													
MW CTL													
MW OTC													
MM CTL										Plot 1,6,7,9,10			Plot 1,6,7,9,10
MM OTC													Plot 1,6,7,9,10
TT CTL												Plot 1-3	
TT OTC												Plot 1-3	
HD Clip CTL		8 total				8 total	8 total				4 total		
HD Clip OTC		4 total				4 total	4 total				4 total		
MM Clip CTL		8 total				8 total	8 total				4 total		
MM Clip OTC		4 total				4 total	4 total				4 total		
Legend:													
Community types:													
HD	Heath Dry												
MD	Meadow Dry												
MW	Meadow Wet												
MM	Meadow Messic												
TT	Tundra Tussoc												



HD CTL



HD OTC

