



Johan Olofsson

Effect of herbivores on species richness in a changing climate



**Elina
Kaarlejärvi**



**Anu
Eskelinen**



**Maja
Sundqvist**



**Robert
Björk**

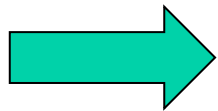


**Jon
Moen**



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Reindeer stand between us & the next Great Flood

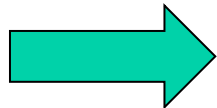
MAY 1, 2017 BY [MERRITT CLIFTON](#) — 2 COMMENTS

How the gift of reindeer presence dwarfs the value of Christmas

Admit it: you have not thought about reindeer even once since Christmas.



(Adapted from painting "Noah's Ark" by Zac Kinkade.)



Hard science supports Berwyn's contention.

"If reindeer disappear..."

"The whole northern Scandinavian tundra is grazed by reindeer. What we know is they can have a large effect in all these places. If reindeer disappear, there will be a really negative effect," Umeå University professor Johan Olofsson told Berwyn.

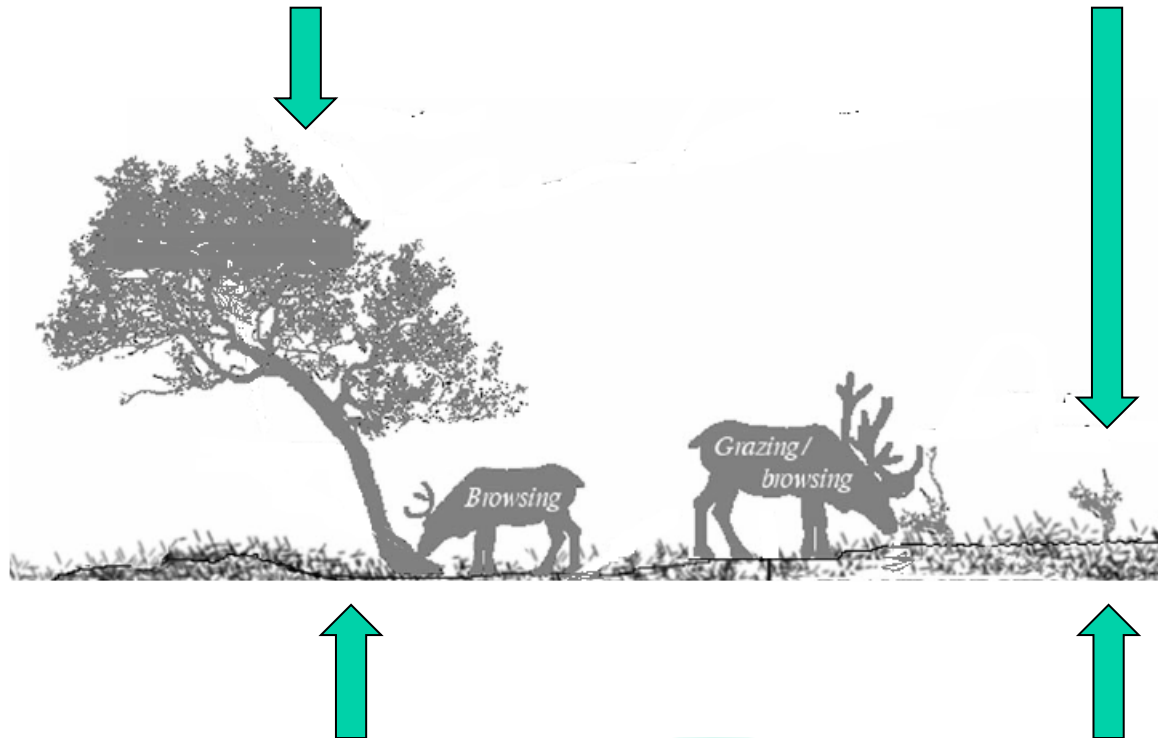


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(Beth Clifton collage)

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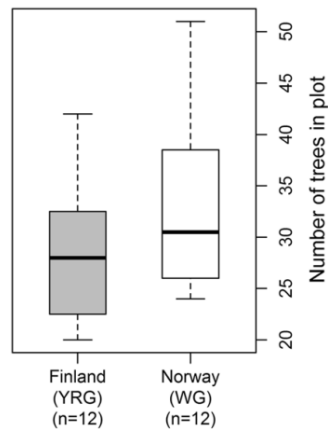
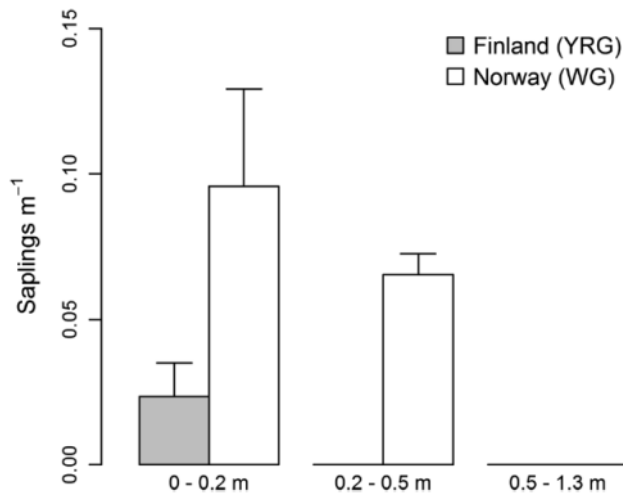
Herbivores and pathogens



Nutrients, water and temperature

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Norway – Lightly grazed

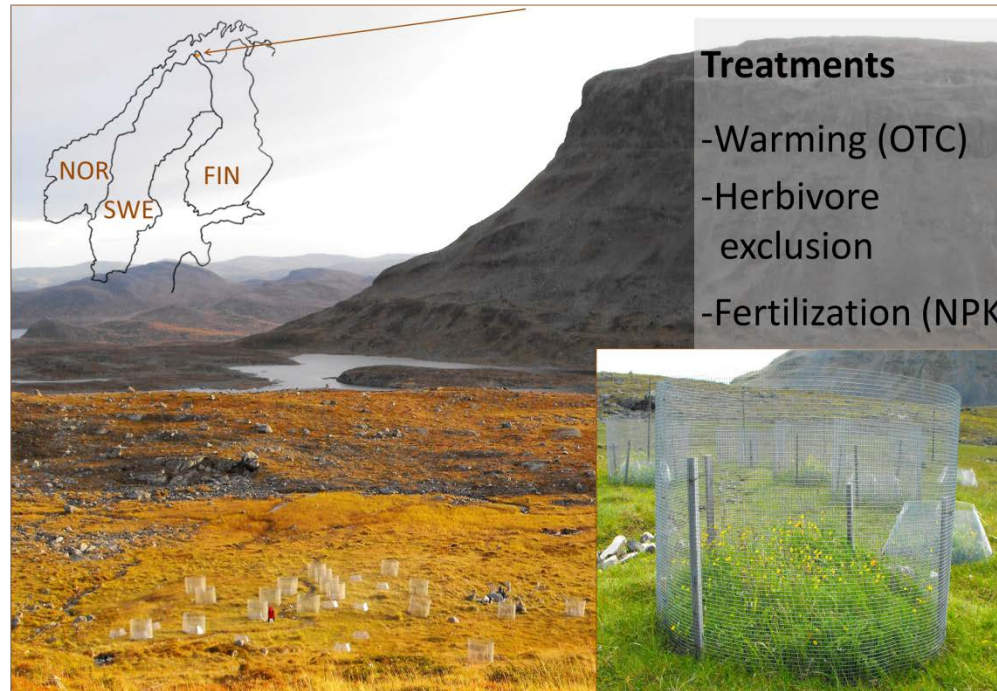
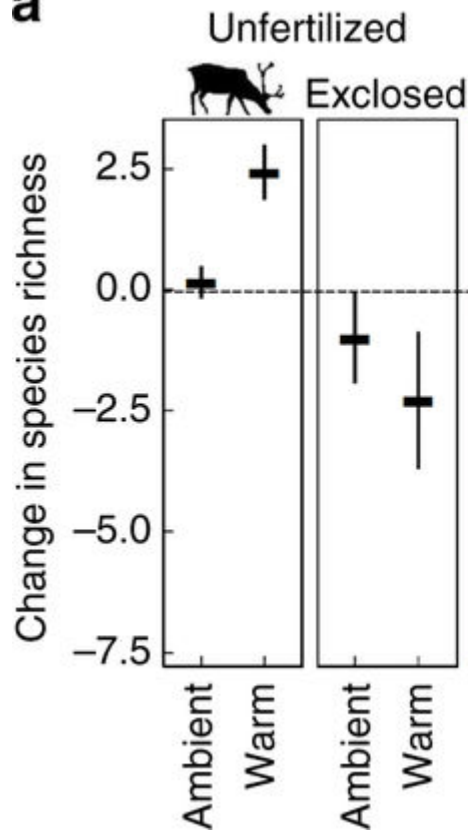


Finland- Intensively grazed

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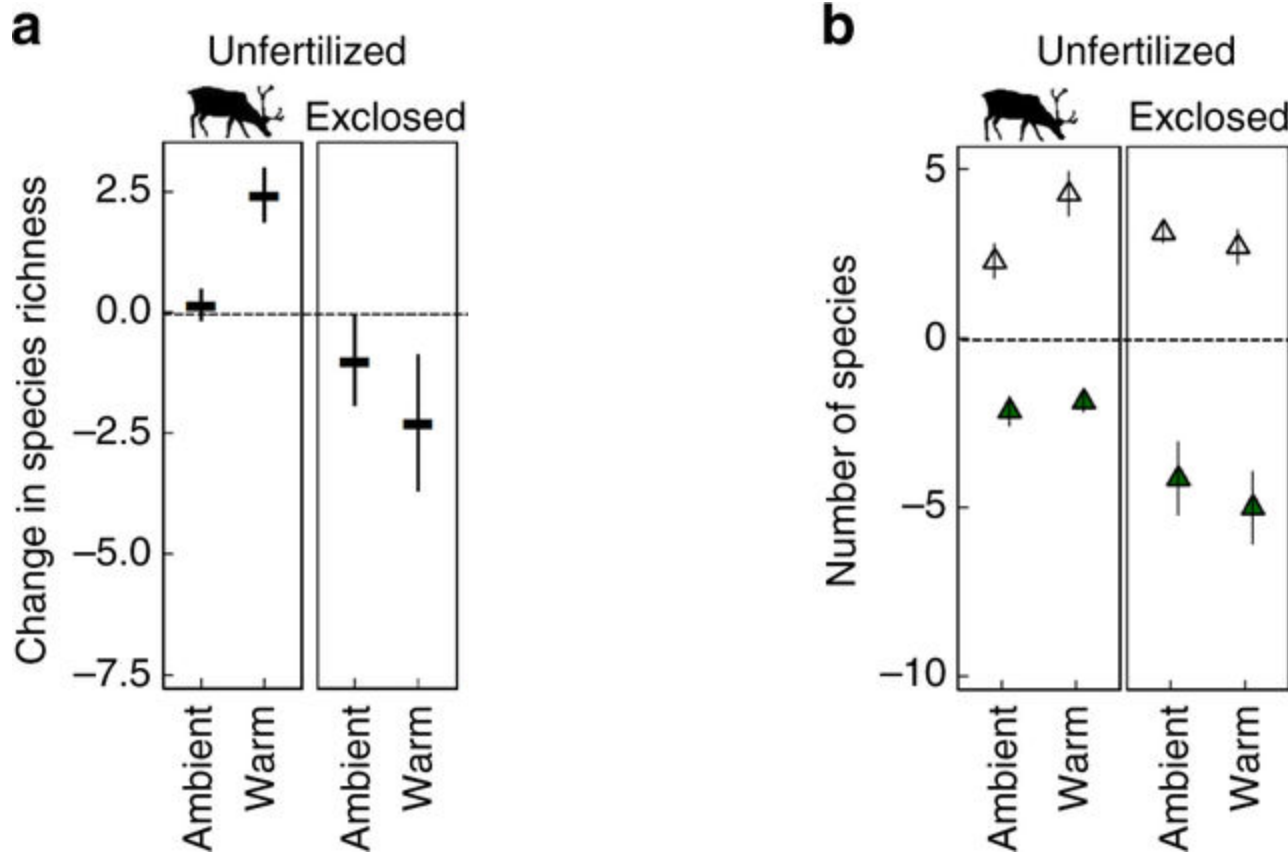
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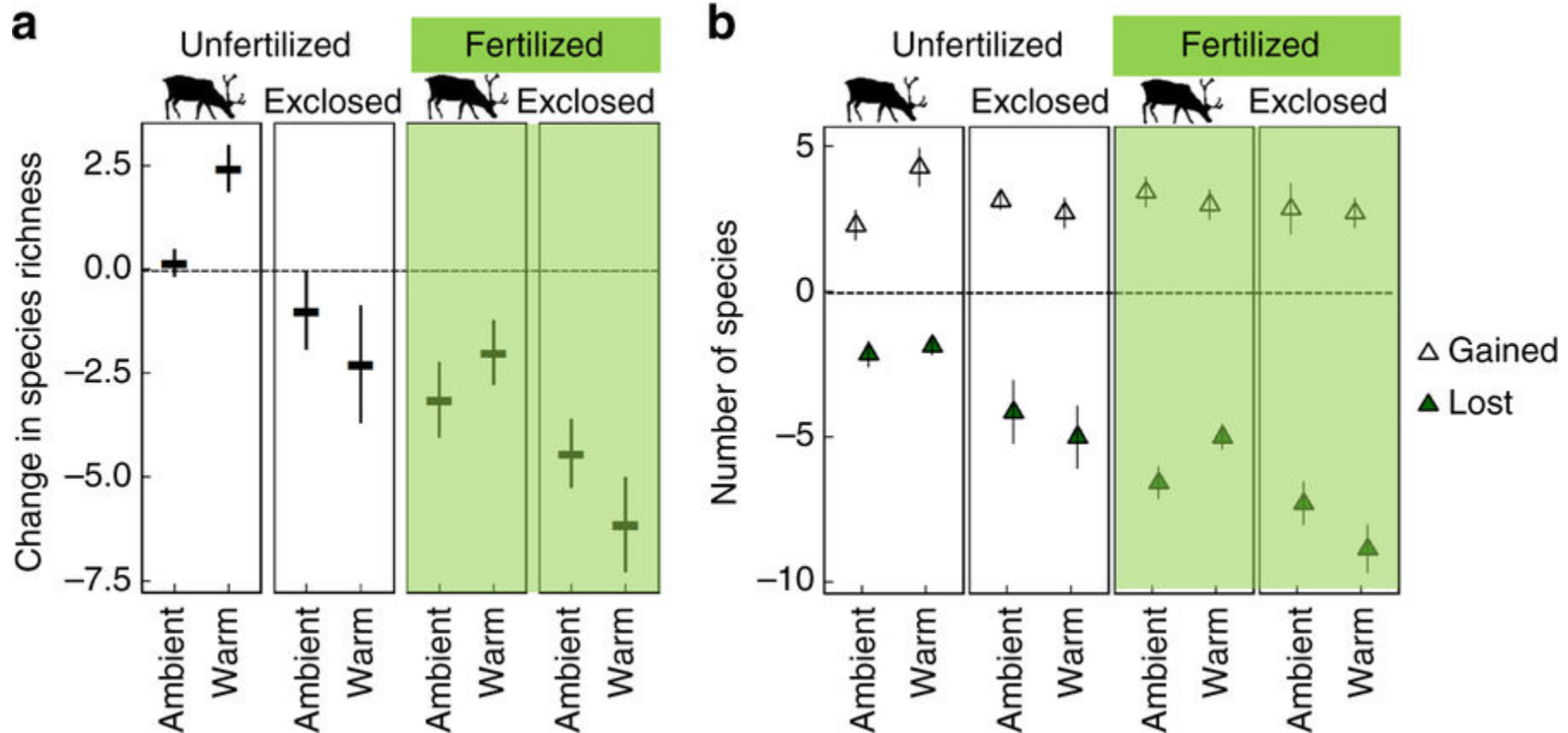
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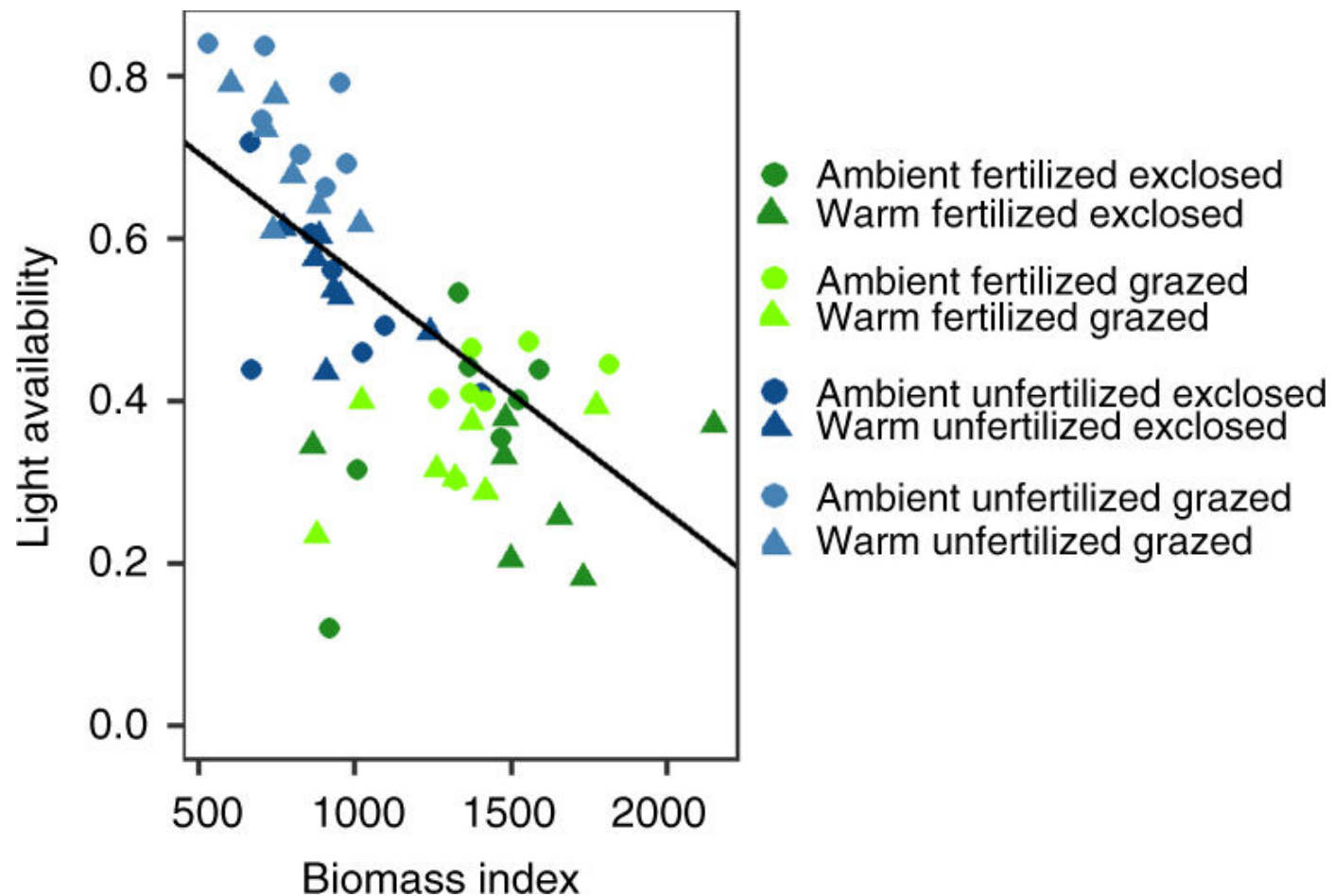
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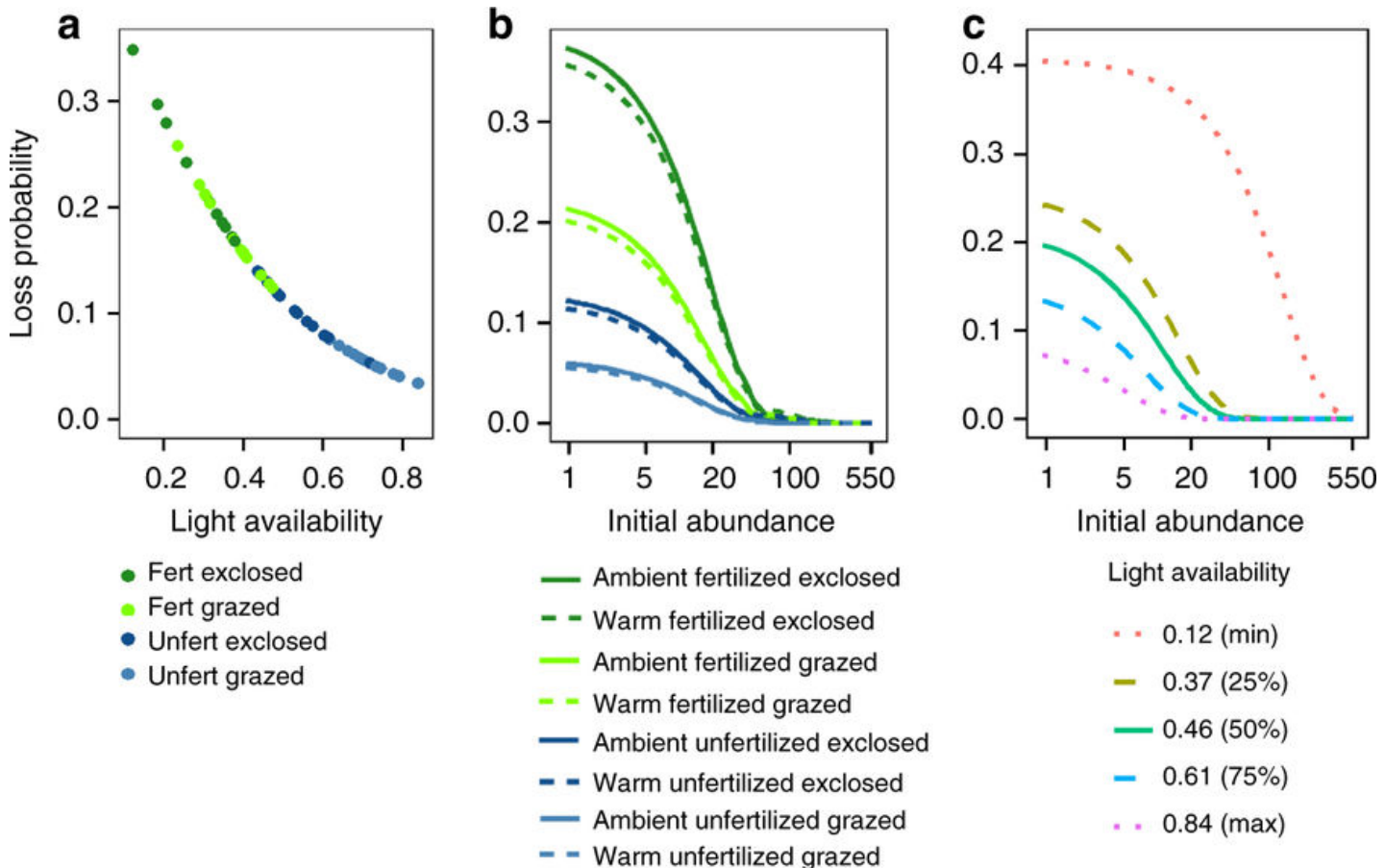
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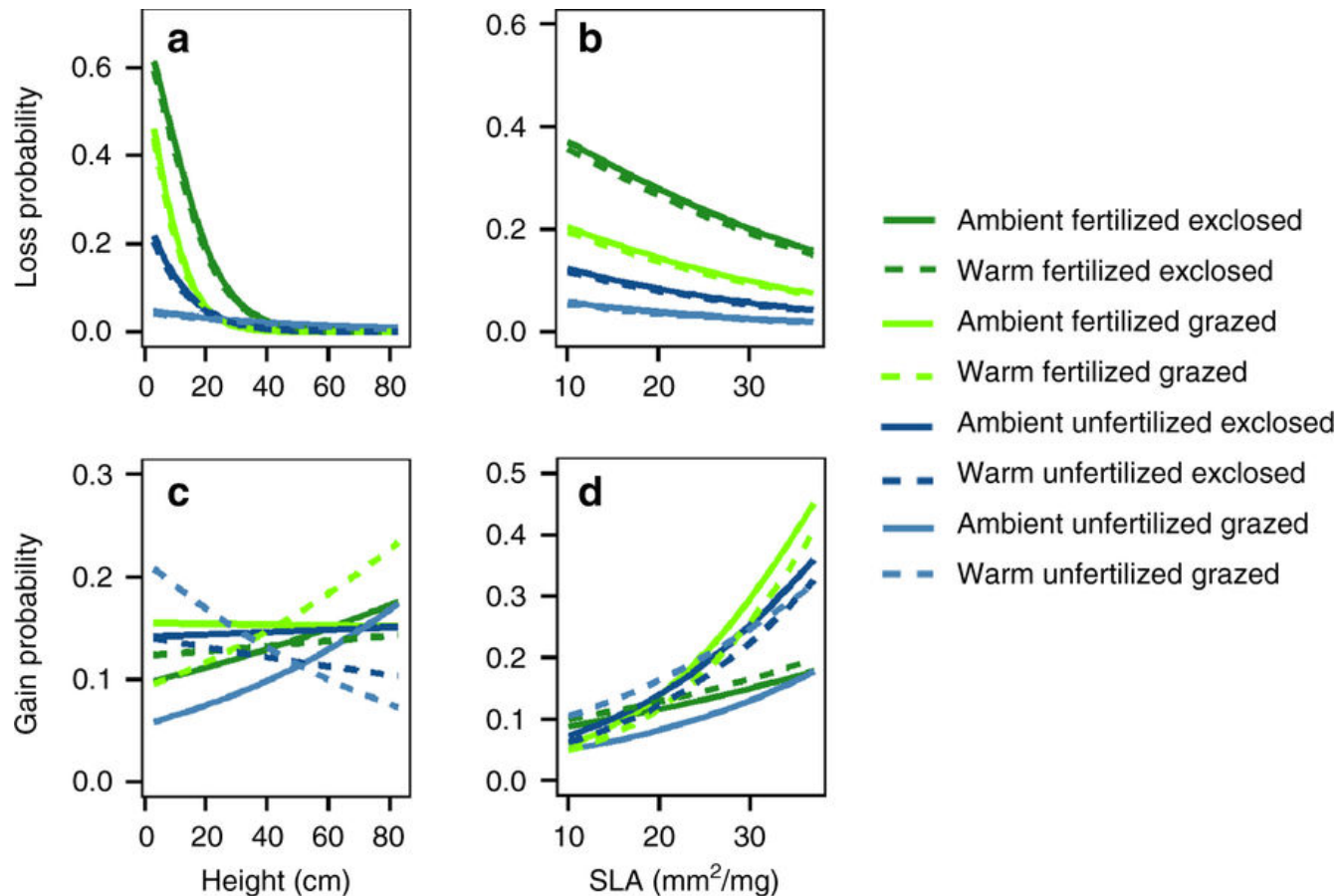
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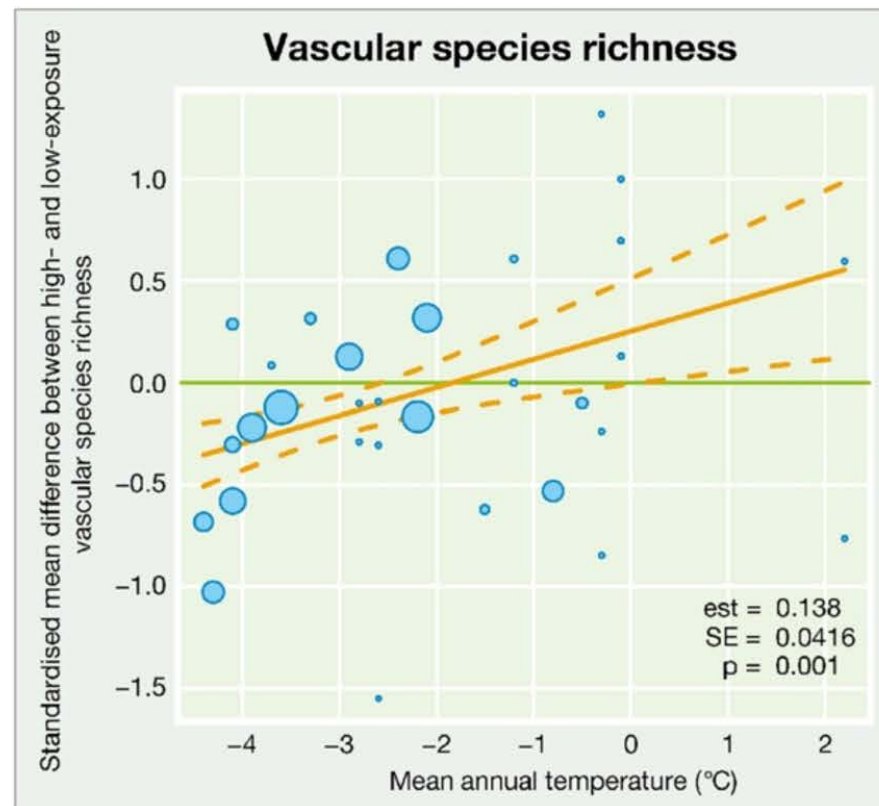
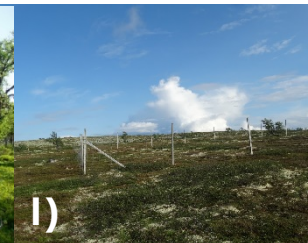
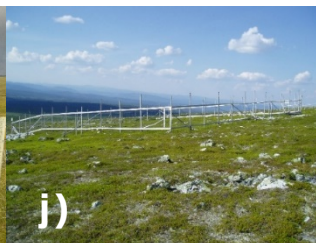
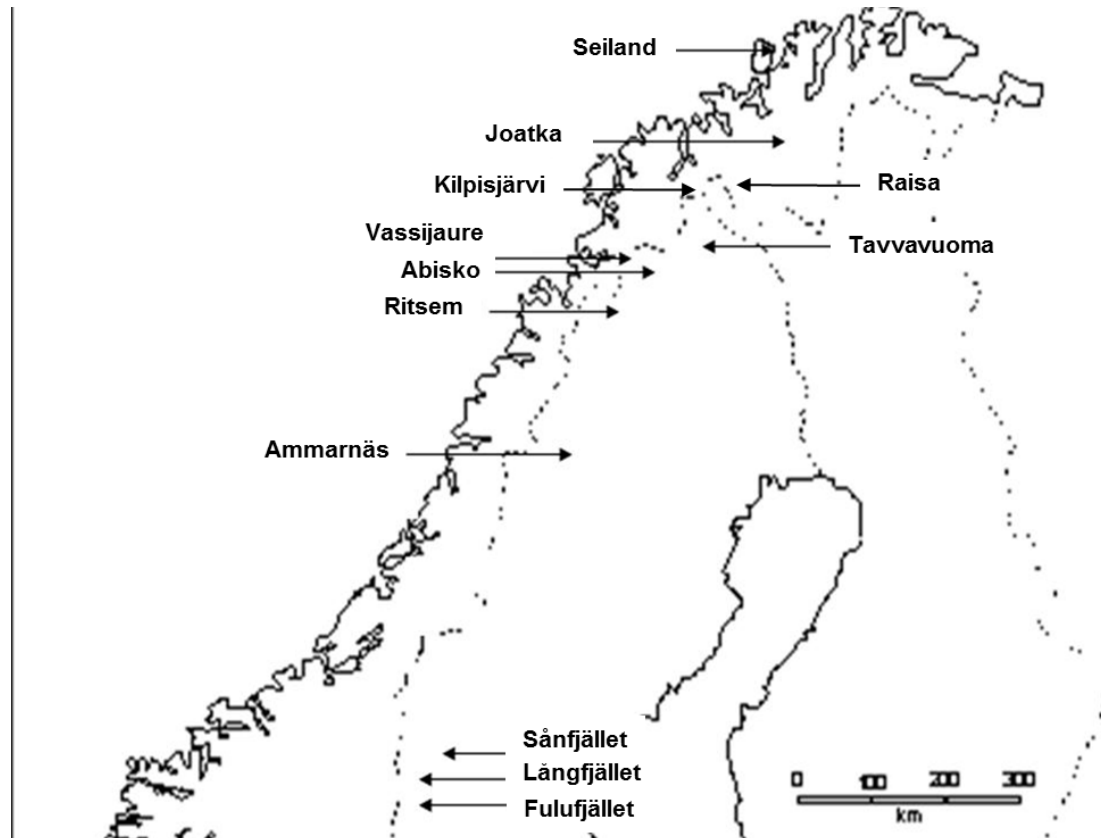


Figure 11 Meta-regression of vascular species richness against mean annual temperature. Each symbol represents one study. Symbol sizes are proportional to the inverse variance of effect sizes.



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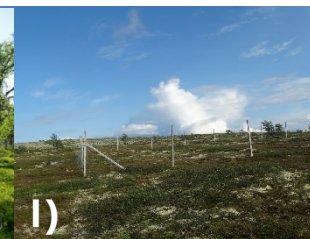
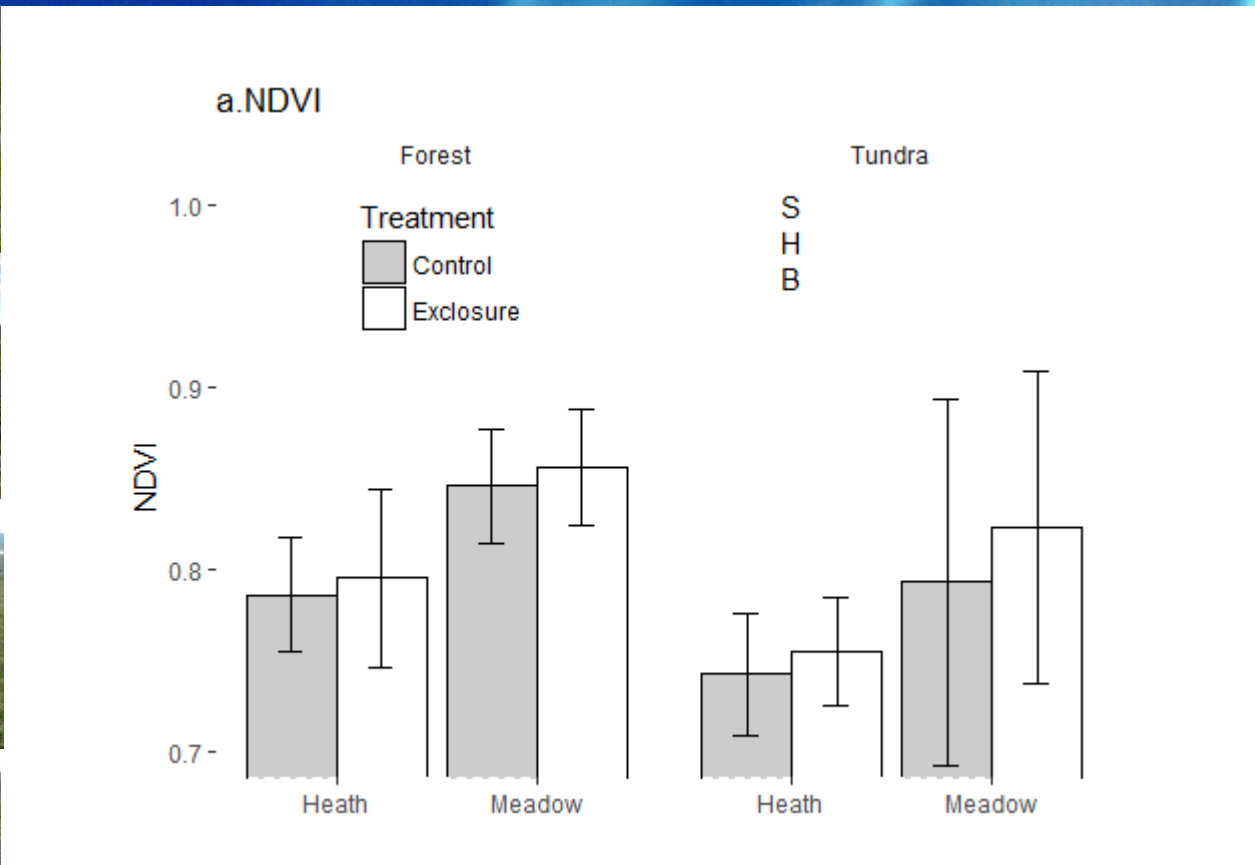
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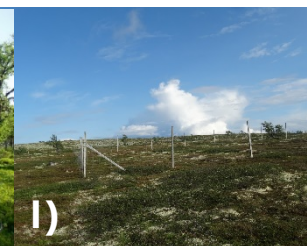
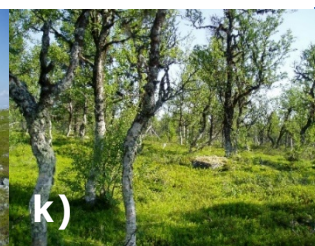
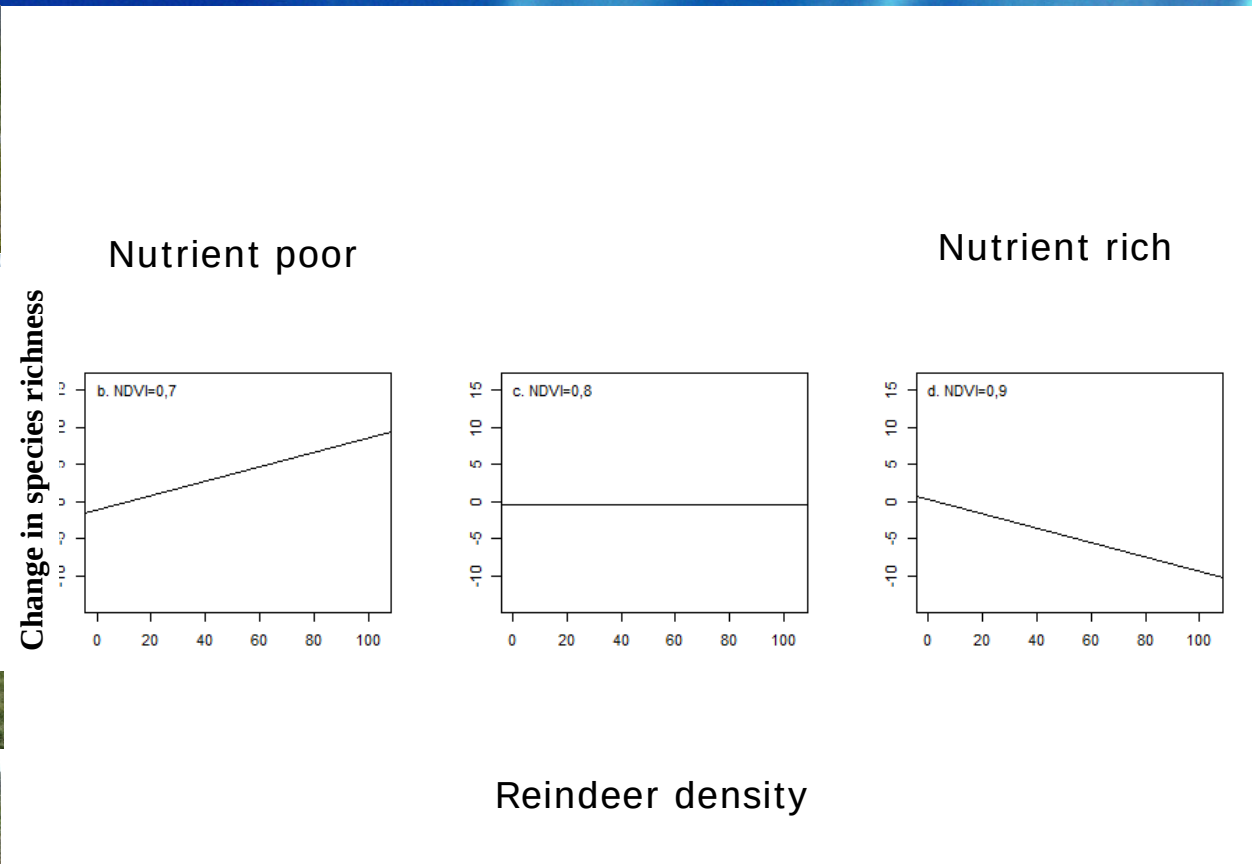
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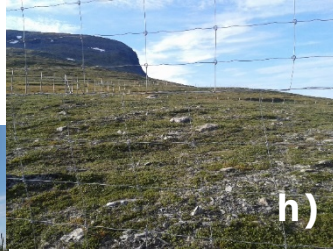
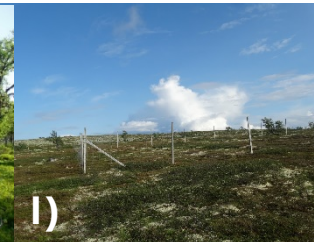
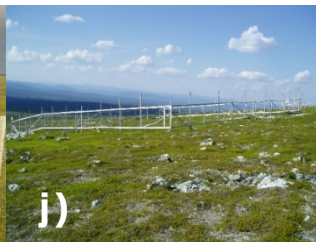
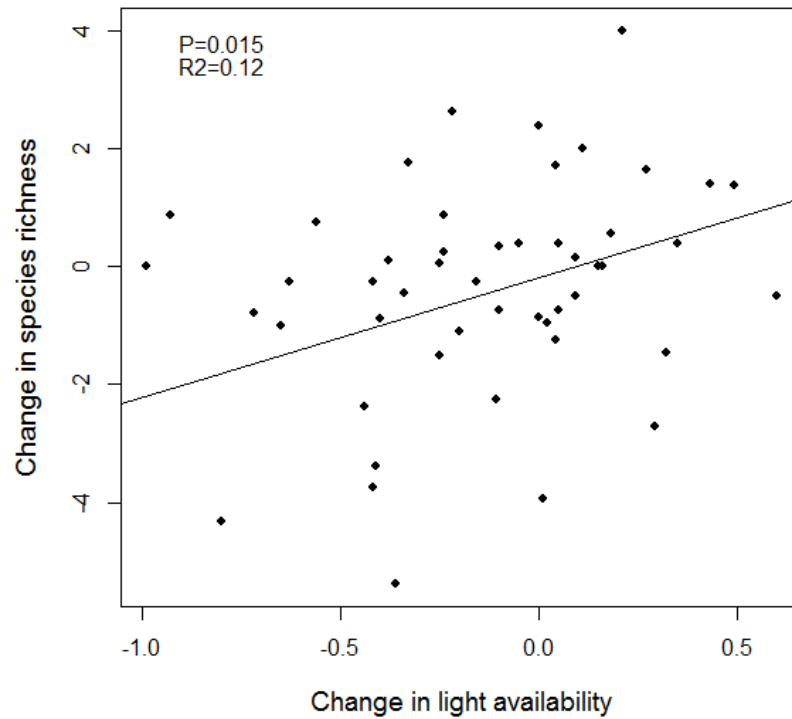
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Effekt betydelse för vegetationssammansättning changing climate

**Reindeer rescue plant richness
in warming tundra.**

**This result is supported both
by experiments and regional
patterns.**

**Plant traits can explain species
species losses and gains.**

