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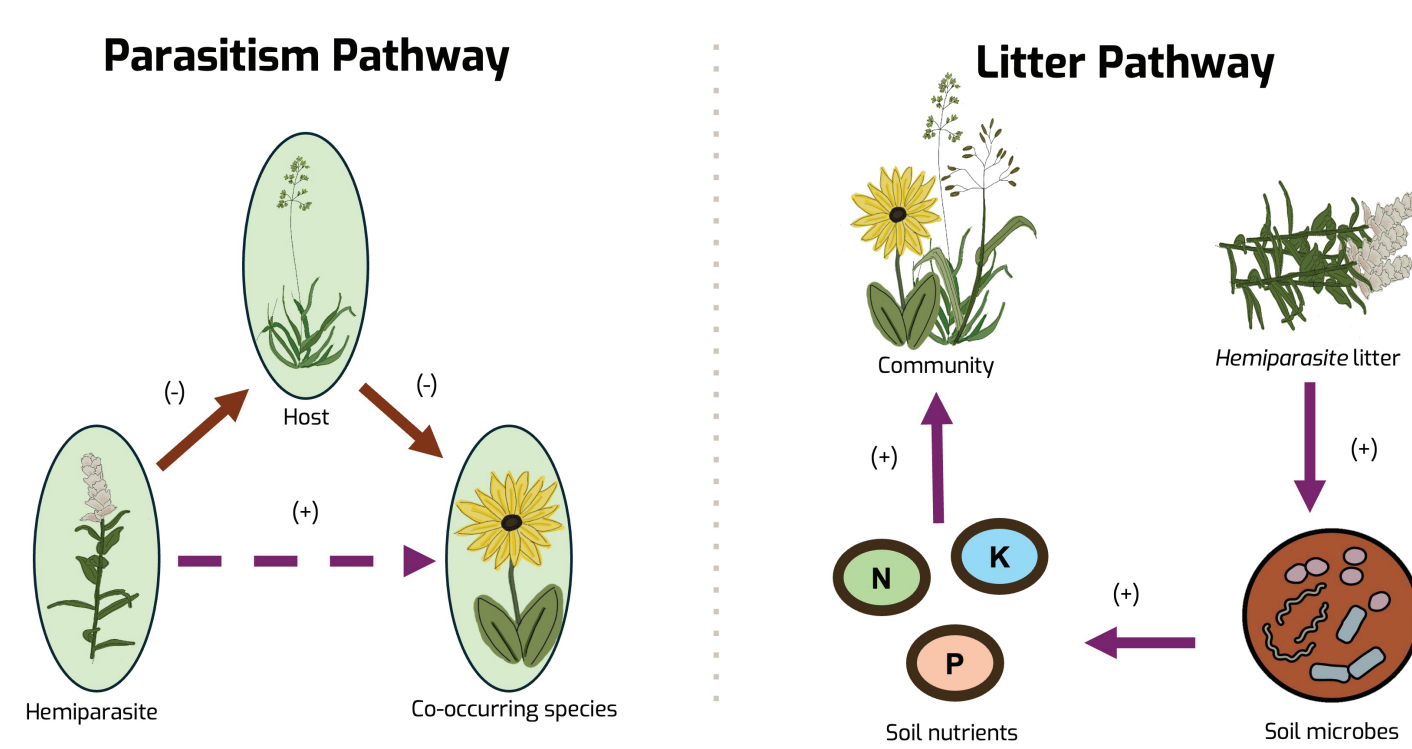


UNIVERSITY OF
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Stealing from the rich to give to the poor: Are hemiparasitic plants the “Robinhood” of sub-alpine communities?

I aim to understand how hemiparasitic plants directly and indirectly alter plant community composition, belowground soil microbial communities, and nutrient cycling.

Root-hemiparasite Ecology



Research Aim



We aim to investigate the effects of hemiparasitic *Castilleja septentrionalis* on plant community composition, diversity, nutrient cycling, and soil microbial communities by assessing their direct and litter-mediated effects.

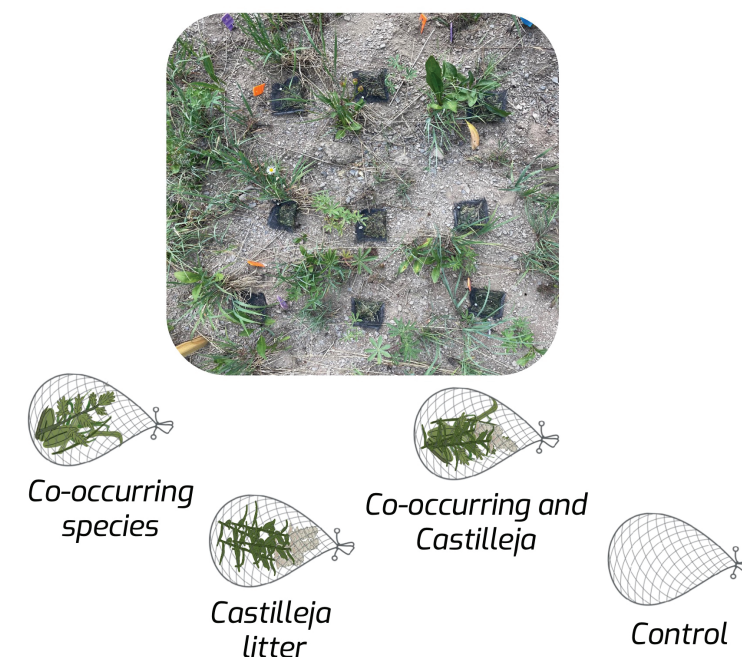
Castilleja septentrionalis

Experimental Manipulations

Hemiparasite removal



Litter addition



Analysis

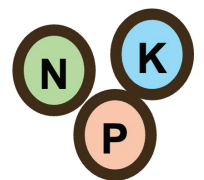
Plant community composition

Assess treatment effects on aboveground biomass, Shannon diversity, and species cover.



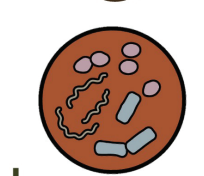
Bioavailable nutrients

Assess the effect of litter addition on the bioavailable nutrient pool.



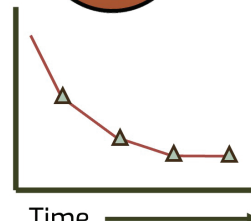
Microbial community composition

Assess treatment effects on microbial community composition

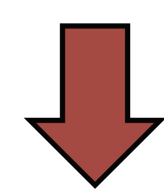


Litter decomposition

Assess the effect of *Castilleja septentrionalis* litter on litter decomposition rates.



Expected Results



Reduce competitively dominant species



Increase the proportion of opportunist decomposers



Increase litter decomposition and nutrient cycling