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# *Aciphylla glacialis* mortality, growth and frost resistance: a field warming experiment

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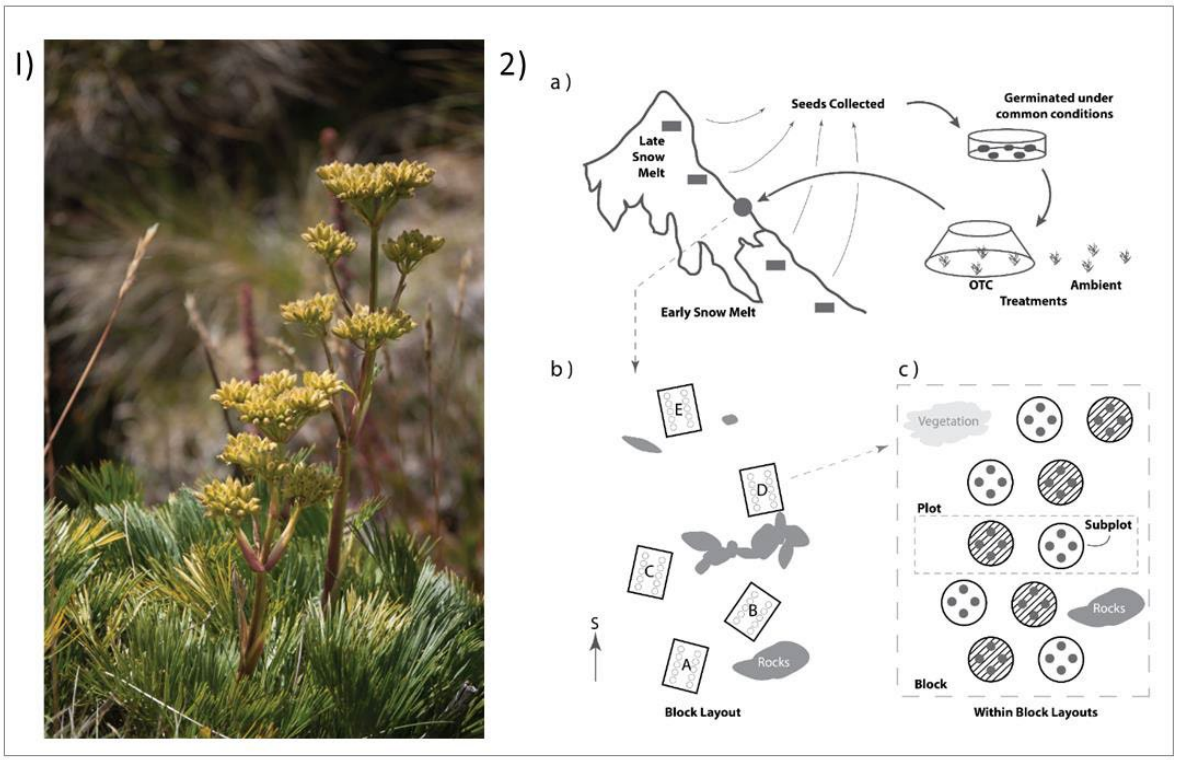
**Supplementary Materials**

**Supplementary Table S1:** Comparison of temperatures during the period of seed maturation (January – April 2012) at the sites where the *Aciphylla glacialis* seed were sourced within Kosciuszko National Park, NSW, Australia. Source: Briceno (2014).

| Environment | Charlotte Pass (1842 m.a.sl) | Snowy River (1972 m.a.s.l) | Seamans Hut (2030 m.a.s.l) | Kosciuszko Summit (2220 m.a.sl) |
|---|---|---|---|---|
| #Frost Events ≤-10°C | 0 | 2±0.5 | 0 | 0 |
| #Frost Events ≤-5°C | 2±0.2 | 11±0.9 | 2±0.4 | 2±0.4 |
| Min T (°C) | -7±0.8 | -10±0.3 | -7±0.3 | -6±0.3 |
| Mean T (°C) | 13±0.5 | 9.3±0.2 | 10.9±0.2 | 8.4±0.1 |
| Max T (°C) | 45±4.9 | 35±0.7 | 31±0.5 | 31±1.7 |
| Total GDD | 1399±131 | 993±32 | 1085±82 | 896±17 |
| #Heat events ≥30°C | 45±10.5 | 6±1.3 | 2±1.2 | 2±1.1 |
| #Heat events ≥35°C | 29±9.3 | 2±0.8 | 0 | 0 |

Supplementary Table S2: The number of individuals that survived the duration of the experiment for ambient and warmed treatments, and each of the provenances, from lowest to high elevation; Charlotte Pass, Snowy River, Seamans Hut, Kosciuszko Summit

| Site | Ambient | Warmed |
|---|---|---|
| Charlotte Pass | 13 | 12 |
| Snowy River | 17 | 6 |
| Seamans Hut | 11 | 7 |
| Kosciuszko Summit | 19 | 9 |
| Total | 60 | 34 |




**Supplementary Figure S1.** (1) Study species *Aciphylla glacialis.* (2) Schematic illustrating; (a) the source populations, in ascending elevation order, Charlotte Pass & Snowy River (the more climatically variable sites), Seamans Hut and Kosciuszko Summit (the less variable sites), (b) the block layout at the transplant site near Merritt's Creek, and (c) a representative illustration of the layout within a block showing 5/10 plots, consisting of an ambient control sub-plot and an OTC sub-plot.

## Height Repeated Measures – Best Model

[Model 4] lmer(Height ~ Treatment*Trip.f+Site+Trip.f+ Treatment*Soil_Moisture+ Trip.f*Soil_Moisture+ (1|Block)+ (1| Site:Tag_Num), REML = FALSE, data = ag_good, na.action = na.exclude)

## Leaf Number Repeated Measures – Best Model

[Model 7] lmer(Leaf_Number ~ Treatment+Site+Trip.f+Soil_Moisture + (1|Block) + (1| Site:Tag_Num), REML = FALSE, family = "poisson", data = ag_good, na.action = na.exclude)

## Fv/Fm Repeated Measures – Best Model

[Model 10] lmer(Fv.Fm ~ Treatment+Trip.f+Site+ (1|Block) + (1| Site:Tag_Num), REML = FALSE, data = ag_good, na.action = na.exclude)