

Heather and germination – climate matters

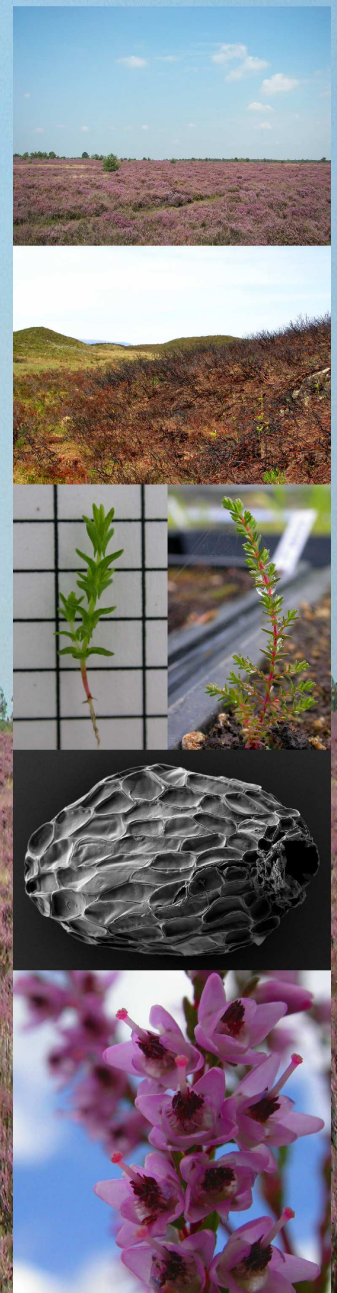
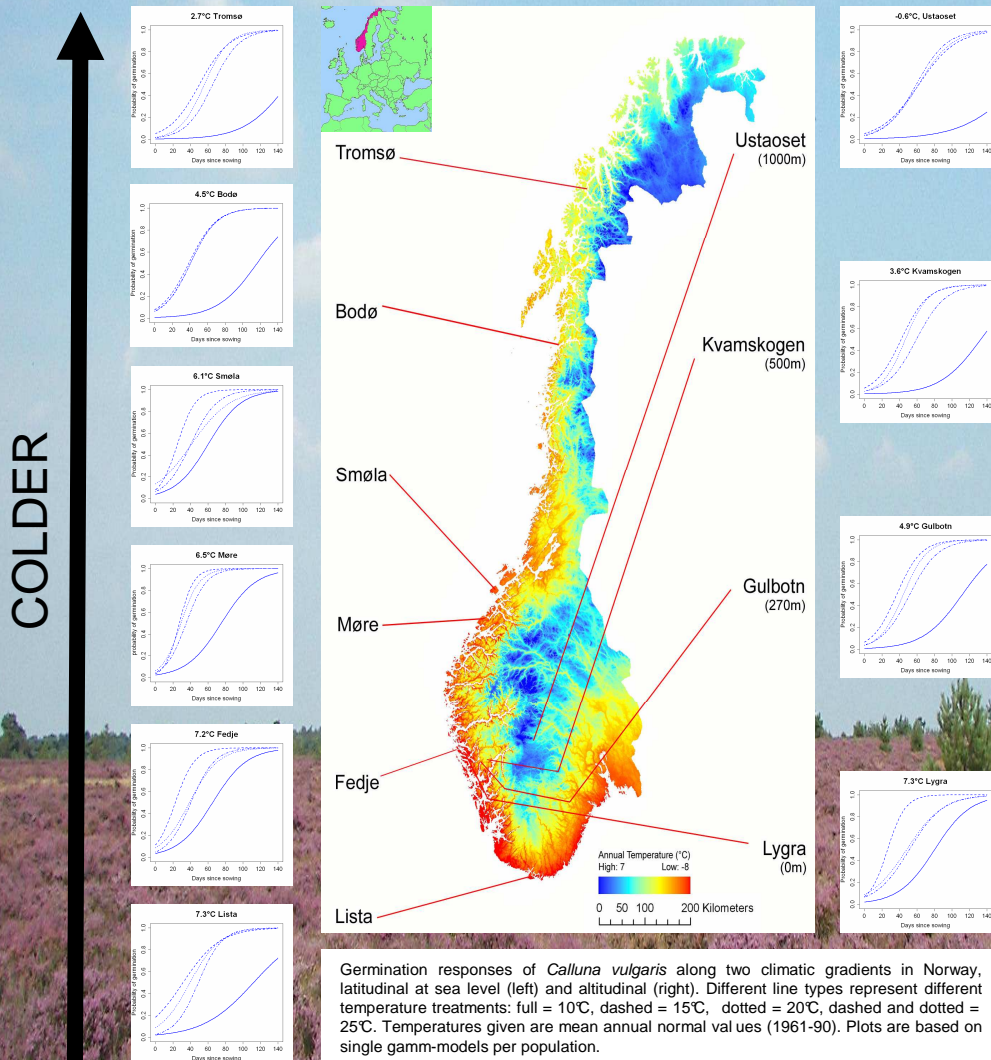
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Background

Oceanic heathlands are characteristic landscapes along Europe's western coast from Portugal up to northern Norway. Heather, *Calluna vulgaris*, dominates the northern heathlands. Shifts in regeneration strategies along climatic gradients have recently been reported for this species, i.e. a decrease of vegetative reproduction towards the North – motivating this study of germination behaviour, which we hypothesize to be systematically different along populations exposed to different local climates.

Experimental Setup & Methods

Calluna seeds from ten populations along two climatic gradients in Norway (latitudinal and altitudinal) were collected for germination experiments at the Millennium Seedbank, Kew Gardens, UK. They were germinated at four temperatures (10, 15, 20, 25°C) on 1% water agar and scored for up to 117 days. Climate data were obtained from met.no and responses analysed by generalized additive mixed models (gamm) on both single populations and with mean annual temperature as predictor on the ten populations together.



Conclusions & Implications

Germination at low temperatures decreased significantly towards colder climates, indicating a delayed spring germination in populations with colder climate. This can be interpreted as a strategy to reduce the risk of seedling mortality due to e.g. spring frosts in both the North and the mountains. However, further experiments are required to investigate whether this effect originates from long-term population adaptations or annual influences of climate on seed development.