

Impacts of experimental warming on alpine tundra plant flowering phenology

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Abstract

Climate warming is driving rapid shifts in tundra vegetation.

Keywords: phenology, climate change, alpine, tundra, plant ecology

Introduction

Climate warming is driving rapid shifts in tundra vegetation. This study uses data from Carbognani et al., 2018, accessed from Dryad, to plot phenological development of three alpine plant species as a function of air temperature. In this study, temperature was manipulated using experimental warming to simulate climate warming of 1-3 degrees C. Data was collected in the Italian Alps during the 2010-2014 growing seasons. An improved understanding of how species will react to warming is imperative in tundra environments where climate warming is driving rapid shifts in vegetation.

Methods

Researchers collected data on three different plant species from 2005-2007 in the Italian Alps. Air temperature was manipulated experimentally and phenophases were recorded for *Cardamine alpina*, *Leucanthemopsis alpina*, and *Veronica alpina* throughout the growing seasons. In this paper, I plot the data by species.

Results

The phenological development of *Cardamine alpina*, *Leucanthemopsis alpina*, and *Veronica alpina* all increased with temperature (Fig. 1)

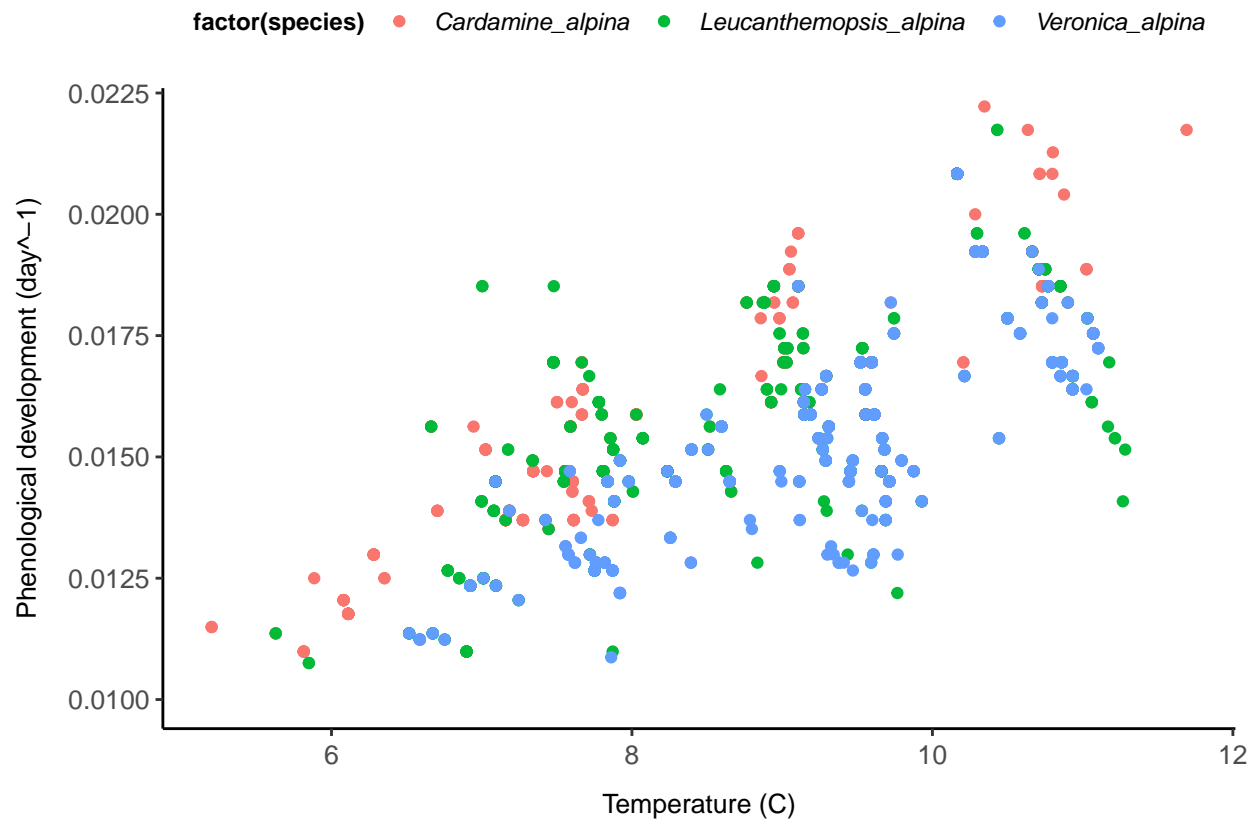


Figure 1. Phenological development as a function of temperature for three alpine species, *Cardamine alpina*, *Leucanthemopsis alpina*, and *Veronica alpina*.

Discussion

Species specific responses.

Conclusions

This is important for reasons.

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References

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