Evaluation of plant species phenology in world botanical gardens

Mini-project, Living Data Project Productivity and Reproducibility course

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Introduction

Botanic gardens have played an important role in the popularization of plant biology in occidental societies for already several decades (Krishnan & Novy, 2017).They help bridge the gap between scientists and the general public.

However, these island of green can also be useful to scientists and are an important source of phenological data (Primack et al., 2021). With climate change affecting plant communities and causing populational and phenological shifts (Vellend et al., 2021), these places regrouping plant individuals from everywhere in the world subjected to variable environmental conditions in different biomes are a window on plant species' capability to withstand changes. That special setting gives meaning to the existence of the **PhenObs initiative** (Phenological Observation Network) (Nordt et al., 2021). It is a collaborative research project designed to track and monitor plant phenology in these particular and rich sites that are botanic gardens. PhenObs focuses on gathering detailed observations on plant phenology across multiple biomes to understand how climate change and other environmental factors impact vegetation and biodiversity.

This initiative relies on data collected by researchers and citizen scientists in various cities from around the globe (though mostly in Europe).

Methods

We measured different phenological traits for repeating species in botanical gardens across the northern hemisphere.

Results

Table Display

Table 1: Peak of flowering and senescence for Achillea Millefolium in different gardens

Botanic_Garden	FlPeak	SenPeak
Xixon	152	208
Tuebingen	209	5
Jena	179	354
Potsdam	195	13
Srinagar	158	340

Botanic_Garden	FlPeak	SenPeak
Halle	181	294
Vienna	187	361
Prague	188	314

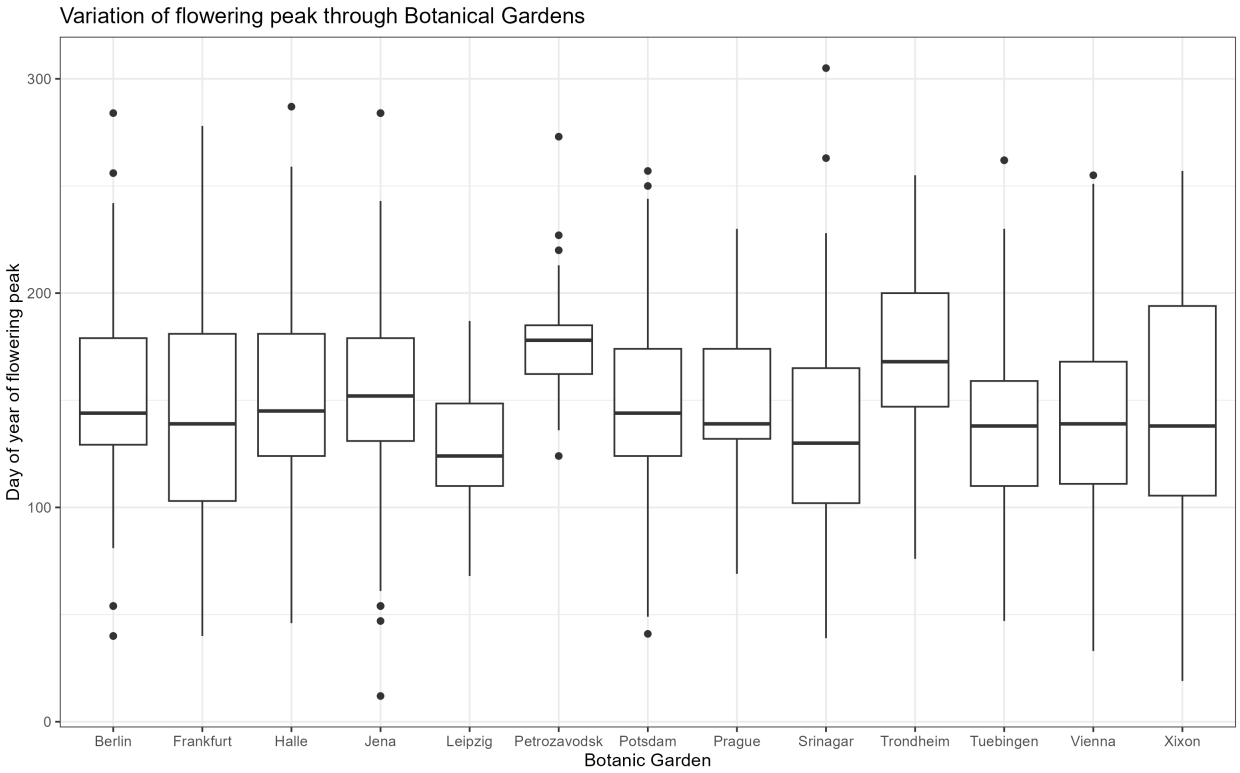

Figure 1 : Comparison of flowering peak at all sampled Botanic Gardens

Discussion

Bibliography

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