

Divergent pattern between phenotypic and genetic variation in Scots pine - Environmental variables and coordinates for each population

SND-ID: 2020-208-4. **Version:** 1. **DOI:** <https://doi.org/10.5878/45yn-ag55>

Download data

pop_env.txt (39.57 KB)

Associated documentation

Data description and analysis_Archive.pdf (338.31 KB)

Data description and analysis_Bookmarks.pdf (189.2 KB)

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2020-208-4-1.zip (~567.07 KB)

Citation

Hall, D. (2021) Divergent pattern between phenotypic and genetic variation in Scots pine - Environmental variables and coordinates for each population (Version 1) [Data set]. Umeå University. Available at: <https://doi.org/10.5878/45yn-ag55>

Creator/Principal investigator(s)

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Research principal

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Description

In this study, we sampled 54 Scots pine populations from the Norwegian coast over the Arctic Circle to western Russia covering 47.3 longitudes or more than 1/8th of the earth's circumference, which represents the most comprehensive coverage of Northern Europe to date. We inferred variation in autumn phenology and dormancy progression from freeze hardiness tests conducted on >5000 seedlings, of which >900 seedlings from 24 populations were genotyped using genotyping-by-sequencing (GBS). Our main goal was to evaluate adaptive responses in Scots pine at phenotype and genotype levels. Evaluation of cold hardiness along environmental and geographical gradients would contribute to an understanding of the performance of these gradients for predicting freeze damage levels. The genotype data allow evaluation of genetic variance across landscapes and thus shed light on the degree of genetic-environmental association and the recolonization history of Scots pine in Scandinavia.

Environmental variables for each population was extracted based on their latitude and longitude at origin from 68 different high resolution environmental grids. These variables were then used for phenotype- and genotype-environment association analyses. A description of all variables can be found in Table S2 in "Document S1. Supplemental methods, Supplemental Figures 1-4, and Supplemental Tables 1-6.", available from doi.org/10.1016/j.xplc.2020.100139

Data contains personal data

No

Language

[English](#)

Time period(s) investigated

1985 - 2017

Variables

72

Data format / data structure

[Numeric](#)

[Text](#)

Geographic spread

Geographic location: [Northern Europe](#)

Geographic description: Data from Scots pine seeds collected from Norway, Sweden, Finland, Arkhangelsk- och Komi- regions of Russia

Responsible department/unit

Ecology and Environmental Science

Research area

[Bioinformatics \(computational biology\)](#) (Standard för svensk indelning av forskningsämnen 2011)

[Genetics](#) (Standard för svensk indelning av forskningsämnen 2011)

[Evolutionary biology](#) (Standard för svensk indelning av forskningsämnen 2011)

[Forest science](#) (Standard för svensk indelning av forskningsämnen 2011)

[Biota](#) (INSPIRE topic categories)

[Geoscientific information](#) (INSPIRE topic categories)

[Environment](#) (INSPIRE topic categories)

[Location](#) (INSPIRE topic categories)

Keywords

[Genetic population structure](#), [Population structure](#), [Population genetics](#), [Gbs](#), [Scots pine](#), [Pinus sylvestris](#)

Publications

Hall et al. 2021. Divergent pattern between phenotypic and genetic variation in Scots pine. Plant Communications

DOI: <https://doi.org/10.1016/j.xplc.2020.100139>

If you have published anything based on these data, [please notify us](#) with a reference to your publication(s). If you are responsible for the catalogue entry, you can update the metadata/data

description in DORIS.

Polygon (Lon/Lat)

4.21875, 71.045528819336

4.21875, 55.776573018668

65.828277734403, 55.776573018668

65.828277734403, 71.045528819336

4.21875, 71.045528819336

Accessibility level

Access to data through SND

Data are freely accessible

Use of data

[Things to consider when using data shared through SND](#)

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Versions

Version 1. 2021-01-29

Related research data in SND's catalogue

[Divergent pattern between phenotypic and genetic variation in Scots pine - 935 genotyped from 24 populations of Pinus sylvestris across Northern Europe](#)

[Divergent pattern between phenotypic and genetic variation in Scots pine - 746 unrelated genotyped Pinus sylvestris from 24 different populations across Northern Europe](#)

[Divergent pattern between phenotypic and genetic variation in Scots pine - Phenotype estimates of the genotyped individuals](#)

[Divergent pattern between phenotypic and genetic variation in Scots pine - Results from seedlings exposure to freezing temperatures](#)

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