CLASSIFICATION OF *PINUS NIGRA* FOREST VEGETATION

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INTRODUCTION

Pine forest vegetation types dominated by *Pinus nigra* are naturally distributed in mountain regions of (sub-)Mediterranean Europe and Anatolia, with a large presence of afforestations in central and northern Europe. Past classifications of *Pinus nigra* forests lack a formal, broad-scale approach hindering progress in developing a better understanding of these communities.

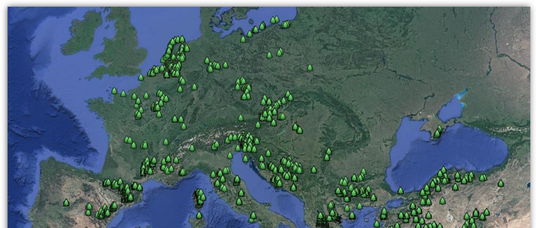
AIM

Our study investigates *Pinus nigra* forest vegetation of Temperate and (sub-)Mediterranean Europe.

The aim is to provide the first large-scale classification of these forests based on a comprehensive data set of vegetation plots and of a formalised classification system of these types.

METHOD

Upon requesting *Pinus nigra* dominated vegetation plots from the European Vegetation Archive (EVA), we obtained 13,689 vegetation plots from 38 participating databases. To study the species composition of these forests and ascertain the main ecological patterns, we performed an unsupervised divisive TWINSPAN.

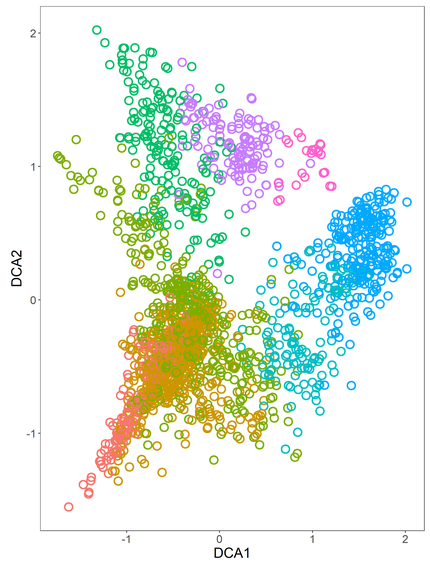


Vegetation plots dataset and its distribution (N=3,966).

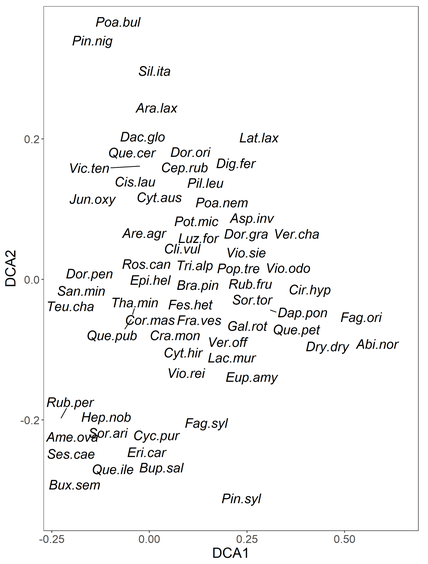
RESULTS

The preliminary results of TWINSPAN analysis showed a clear distinction between planted and natural forests in the first division (not shown). *Pinus nigra* afforestations of temperate European lowlands outside the native distribution range of the species showed a different species composition than the natural forests within the native distribution range of *Pinus nigra*.

Vegetation plots within and outside native distribution range (N=3,966).



Vegetation plots within native distribution range (N= 2,193).



Vegetation plots within native distribution range (N= 2,193).

CONCLUSIONS

This study will provide vegetation classification at the alliance level for *Pinus nigra* forests, enabling automatic classification of relevés from Temperate and (sub-)Mediterranean Europe and Anatolia. The standardisation of the content of classifications will aid future vegetation and ecological studies, ensuring comparability and synthesis of findings across the geographical scope of this study. Moreover, the preservation of natural *Pinus nigra*-dominated relict communities has wider conservation significance as these communities are a target focus of EUNIS framework and 92/43/EEC Directive, and therefore a topic of European interest. Accordingly, this comprehensive analysis will offer relevant insights for the prioritisation of habitats in the field of nature conservation.

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CONTACT INFORMATION

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