GrassPlot – the database of multi-scale plant diversity in Palaearctic grasslands

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Introduction

Understanding patterns and drivers of phytodiversity as well as ecological scaling laws and assembly rules constitute core interests both of vegetation ecologists and macroecologists. To enhance our understanding of these issues, we compiled the new **"Database of Scale-Dependent Phytodiversity Patterns in Palaearctic Grasslands"** (GrassPlot; GIVD ID EU-00-003) within the framework of the Eurasian Dry Grassland Group (EDGG). GrassPlot contains high-quality plot observations (relevés) of **eight standard grain sizes (0.0001; 0.001 … 1000 m²)** as well as **nested-plot series** with at least four different grain sizes. The scope of GrassPlot are the **grasslands as well as other herb- or cryptogam-dominated terrestrial and semi-terrestrial vegetation types from the whole Palaearctic biogeographic realm** (Europe, North Africa, West, Central and North Asia).

Background

GrassPlot started as an informal repository for the multi-scale sampling data from the annual EDGG Research Expeditions/Field Workshops from 2009 onwards. In March 2017, an international expert workshop in Bayreuth, Germany, founded a formal consortium, defined rules under which data can be contributed or used (the Bylaws) and elected a Governing Board, Custodian and Deputy Custodian.

Fig. 1. (a) Multi-scale sampling at the EDGG Field Workshop in Navarre, Spain; (b) participants of the international workshop in Bayreuth.

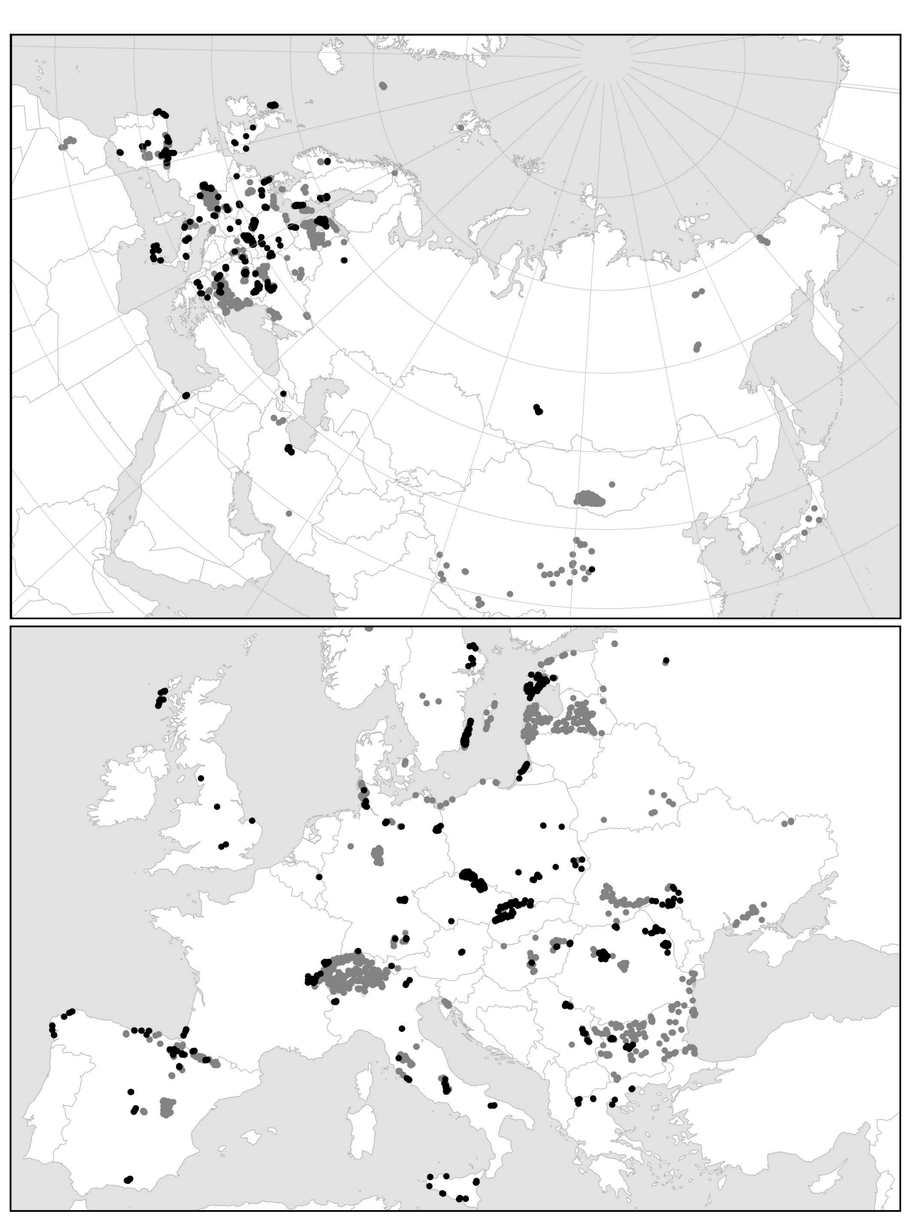

Fig. 2. Spatial coverage of GrassPlot data from Morocco to Japan. Currently, the majority comes from sub-Mediterranean to hemiboreal Europe (black = multi-scale plots, grey = other plots).

Current content v. 1.00 (January 2018)

- **126 datasets**
- **198 data owners**
- **36 countries**
- **168,997 plots, among them 14,064 with data also for non-vascular plants**
- **66,000 0.01-m² plots, 17,206 1-m² plots, 5,520 10- (or 9-) m² plots, 2,545 100-m² plots**
- **2,797 nested-plot series** (with at least 4 grain sizes)

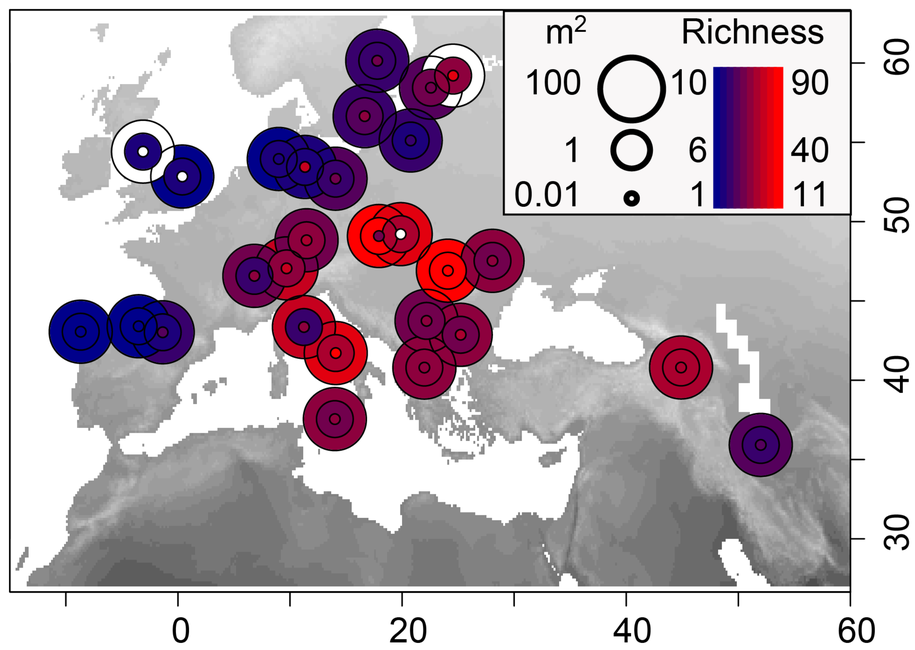

Fig. 3. Illustration how ranking of richness varies across scales. The figure shows vascular plant species richness, aggregated by regions (regional mean; inner circle: 0.01 m², middle circle: 1 m², outer circle: 100 m²). Some regions are extraordinarily rich or extraordinarily poor at all scales, while others are outstanding at only one grain size.

Ways to contribute

Persons who have vegetation-plot data meeting the specific requirements of GrassPlot and who agree with the GrassPlot Bylaws, are invited to contribute their data and become members of the GrassPlot Consortium.

Opportunities for analyses

The steadily growing content of GrassPlot is available for publication projects led by members of the GrassPlot Consortium with co-authorship option for the others. The **high-quality, fine-grain, multi-scale richness and compositional data across large ecological and biogeographic gradients** allow for **novel studies on patterns and drivers of alpha and beta diversity, functional and phylogenetic diversity, community assembly and niche patterns and many other aspects**.

More information…

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