European Vegetation Archive
Data Request Form

To obtain data from the European Vegetation Archive (EVA), including the ReSurveyEurope Database, please first enquire the EVA database administrator Ilona Knollová (ikuzel@sci.muni.cz) whether the data that meet your needs are available. If they are, please fill in the form below and submit it to Ilona or another member of the EVA Coordinating Board (or ReSurveyEurope Board if you ask for data from the ReSurveyEurope Database).

- Applicant's name:

  Jürgen Dengler
  Werner Ulrich

- Applicant's institutional address:

  ZHAW
  Nicolaus Copernicus University Torun

- Applicant's e-mail:

  dr.juergen.dengler@gmail.com
  ulrichw@umk.pl

- Project title:

  Species-abundance distributions (SADs) and species trait distributions (STDs) in Festuco-Brometea grasslands

- Are you asking for core EVA data (non-repeated vegetation surveys) or for ReSurveyEurope data (repeated vegetation surveys)?

  core EVA

- Brief description of the aims and methods of the study:

  Two basic patterns are used to describe local plant community assembly, the species abundance distribution (SAD) and the expression of species functional traits. SADs combine species richness and abundances and define the pattern of commonness and rarity in the community, while associated species – trait distributions (STD) tell about niche occupancy and environmental filters. With respect to SADs of plant communities much work has been devoted to the importance of the dominant species for community functioning, particularly productivity, biomass, and carbon sequestration. Rare species have been studied with respect to temporal variability in community composition.

  Astonishingly few work has been done with respect to species either with intermediate local abundance, placed between abundance and rare species, or with intermediate regional occurrence, placed between core and satellite species. These subordinates account for the majority of species in a community. Studies that assess the role of subordinates for ecosystem functioning are also scarce. Grime (1998) saw their role as filters for the recovering of dominant species after disturbance. In this view subordinates would at least partially control the species composition of dominants in plant communities.

With respect to STDs the role of subdominant species might differ from that to SADs. Precise comparative assessments of the shape of plant SDS are largely lacking except for the many studies on diversity and evenness indices. These do not inform about the position of certain species with certain traits in the dominance order.

Here, we try to understand the role of subordinates in plant community patterns. For this task we intend to use the GrassPlot data within the EVA data base. These data are of high resolution and make it possible to study changes in dominance orders and to relate this variability to community trait expression, functional diversity, and compositional stability. We restrict our study to the widely distributed *Festuco-Brometea* class (secondary dry grasslands) and intend to use at least 20 regional data sets containing a total of at least 150 single plots with a minimum of 20 species per plot. Annual average temperatures and precipitation, as well as temperature range and precipitation variability come from the high resolution European Chelsa bioclimate data. For each species we intend to extract data on five important functional traits: specific leaf area (SLA), leaf dry matter content (LDMC), plant height (HP), and seed size and numbers (SS and N).

- Will someone else be involved in data editing or analysis in addition to the applicant?

  Idoia Biurrun, Thomas Matthews

- Estimated time of delivery of results (e.g., manuscript submission):

  end of 2023

- Geographic area needed (e.g., countries or range of geographic coordinates):

  All

- Do you need plots to be georeferenced? If so, what is the minimum accuracy of plot location (in metres or kilometres) needed for your project?

  Any accurracy

- Vegetation types needed (syntaxa):

  Festuco-Brometea ACCORDING to the original assignment in GrassPlot (if this selection is not possible, please deliver all plots meeting the other criteria)

- Other data selection criteria:

  Only plots from the GrassPlot database
  Only plots of 10 m2

- Envisaged publications:

  One international publication

- Data deposition. Some journals require data used for the analysis to be stored in a public repository to ensure the repeatability of the analysis. According to EVA Rules, you are not allowed to store the original vegetation-plot data obtained from EVA. However, if you plan to publish in such a journal, you may deposit

a reduced EVA-derived dataset that (1) would make it possible to repeat the analysis published in the paper and (2) does not contain any information not used in the analysis. For example, such a dataset can contain only a subset of species (e.g., only angiosperms or only neophytes), or replace species names with codes, or replace species cover values with presences/absences, or remove all the header data, or replace the exact plot coordinates by coarse grid-cell coordinates etc. If you plan to deposit reduced information from vegetation plots, please describe here what might be deposited. If the project developed so that you needed to deposit more information than specified here, you would need to ask specific permission from the Custodians of the EVA databases used in your analysis before the dataset is deposited.

> Since only GrassPlot data are concerned, this will be handled according to GrassPlot rules.

- Plant trait data from the TRY consortium. If you plan to combine your analysis of vegetation-plot data with plant trait data, you can also request a dataset of 18 gap-filled traits for a large number of plant taxa prepared by the TRY consortium. These traits include Leaf area, Specific leaf area, Leaf fresh mass, Leaf dry matter content, Leaf C, Leaf N, Leaf P, Leaf N per area, Leaf N:P ratio, Leaf delta15N, Seed mass, Seed length, Seed number per reproductive unit, Dispersal unit length, Plant height, Stem specific density, Stem conduit density, and Conduit element length. This dataset can be provided to you by the EVA manager together with the vegetation-plot data. If you use this dataset, you must inform about your project the TRY data contributors who might be potentially interested and invite them as potential co-authors, assuming they will make an intellectual contribution to your paper. The list of the TRY data contributors will be sent to you together with the gap-filled trait dataset.

> Yes

- Specification of the co-authorship arrangements in publications based on the requested data. Note that the EVA Rules recommend that co-authorship is offered to a representative of each database providing data that are particularly important for the project (e.g., a relatively large proportion of the final dataset used in the analyses or data from unique vegetation types or under-represented geographic areas). This database representative should be an expert in the topic of the project (not necessarily the custodian or deputy custodian), and this person should contribute to the project more than just by providing the existing data, e.g. by intellectual contribution to the concept of the paper, preparation of new data, or helping with data analysis, interpretation of the results or writing parts of the paper (see the IAVS Code of Professional Ethics: http://iavs.org/Governance/Code-of-Professional-Ethics.aspx). The project leader should enable active participation by regularly informing potential co-authors about the progress of the project from its early stage. The project leader should also make final co-authorship arrangements based on the real input of the individual contributors.

> Since we request only plot data from GrassPlot, the co-authorship arrangements will be made according to the more generous GrassPlot rules.
> We will offer the TRY contributors an opt-in possibility according to the TRY rules.

- Eligibility of the applicant to receive EVA or ReSurveyEurope data. Specify to which EVA or ReSurveyEurope database the applicant has contributed; if the applicant is not the custodian or deputy custodian of an EVA or ReSurveyEurope database, give a name of a custodian or deputy custodian who supports this data request.

> Jürgen Dengler is custodian of GrassPlot

- I agree with the terms of EVA Data Property and Governance Rules as approved on 26 May 2012 (http://euroveg.org/download/eva-rules.pdf).

- If I ask for ReSurveyEurope data, I agree with the terms of ReSurveyEurope Data Property and Governance Rules as approved on 6 April 2022 (http://euroveg.org/download/resurveyeurope-rules.pdf).
- In any result obtained based on EVA core data (non-repeated vegetation surveys), I will cite the EVA report article (Chytrý et al. 2016; https://doi.org/10.1111/avsc.12191). In any result obtained based on the ReSurveyEurope data (repeated vegetation surveys), I will cite the ReSurveyEurope report article as soon as it is published. In addition, I will cite individual source databases used in my project (if possible, in the list of References; if not possible, at least as a list of databases in the electronic supplementary material).
- If I ask for the plant trait data from TRY, I agree to invite to my project the TRY data contributors following the list received from the EVA database manager.

Wädenswil, 26.05.23

Jürgen Dengler