



European Vegetation Archive Data Request Form

To obtain data from the European Vegetation Archive (EVA), please first enquire the EVA database administrator Ilona Knollová (ikuzel@sci.muni.cz) whether the data meeting 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.

- Applicant's name:

Nina Fahs, Irena Axmanová, Tamara Těšitelová, Jakub Těšitel

- Applicant's institutional address:

Department of Botany and Zoology, Masaryk University, Kotlářská 2, Brno, Czech Republic

- Applicant's e-mail:

n.fahs@gmx.de, axmanova@sci.muni.cz, t.malinova@centrum.cz, tesitel@sci.muni.cz

- Project title:

The investigation of ecological niches of nitrogen-fixing legumes, parasitic and mycoheterotrophic plants and the co-occurrence of hemiparasites and legumes on a large scale

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

Some plants display specialised strategies of resource acquisition deviating from the usual plant physiology (e.g. parasitic plants, nitrogen-fixing legumes, mycoheterotrophic plants). These strategies allow the plants to escape ecological constraints associated with deficiency of resources. These functional groups additionally exert multiple effects on the communities and ecosystems they inhabit. Indirect pieces of evidence scattered in the literature further suggest the existence of a mutualism e.g. between some hemiparasites and legumes, aside from their known hemiparasite-host relationship. In our project we aim to (1) identify habitat preferences and ecological niches of plant functional groups with specific resource acquisition (parasitic plants, nitrogen-fixing legumes, mycoheterotrophic plants) in relation to environmental gradients and habitat types on the continental scale. Further we would like to (2) detect possible co-occurrence patterns between hemiparasites and legumes in European grassland communities.

For the first part (1) we plan to use the classification of vegetation plots into EUNIS habitat types, classified by expert system approach. Further we plan to use climatic variables and Ellenberg-like indicator values for the analysis of niches.

For the second part (2), using a subset of the dataset, we plan to detect co-occurrence patterns among plant functional groups with specific resource acquisition by qualitative phi-coefficient applied on presence-absence data. We will also analyse the correlation between cover abundances of the species at sites where they co-occur.

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



European Vegetation Archive Data Request Form

Other members of the Vegetation Science Group at Masaryk University might be involved in data analysis and interpretation of the results.

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

We expect a first manuscript submission in 2023.

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

All Europe

- 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?

Only georeferenced plots (location uncertainty up to 10 km)

- Vegetation types needed (syntaxa):

Forests, shrublands, grasslands, wetlands (including mires), coastal habitats (including salt marshes), inland sparsely vegetated habitats and man-made habitats according to the EUNIS-ESy classification.

- Other data selection criteria:

- Envisaged publications:

2-4 publications in international journals

- **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.

If required by the journals, we would deposit the minimum information necessary for repeating the analysis. This would mean aggregated data on vascular plants only (no cryptogams), without species names apart from investigated specialised plants. Exact geographical coordinates will be replaced by the coordinates of central points of the coarse grid shown in the maps.

- **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 for 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 from the



European Vegetation Archive Data Request Form

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.

No

- 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.

One representative of each EVA database will be invited as a co-author provided (1) s/he expresses an interest in this study by registering in the online EVA form and (2) the database will provide either at least 1% of the plots of the final dataset or plots will be from a large area where almost no other plots are available. To be included on the final author list, the invited potential co-authors will need to contribute intellectually beyond the delivery of the data, e.g., by commenting on the concept of the analyses, interpretation of the results or the text of the manuscript.

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

This data request is supported by Custodian Milan Chytrý.

- 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>).
- In any result obtained based on this data, I will cite the EVA report paper (Chytrý et al. 2016; <https://doi.org/10.1111/avsc.12191>). 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.

Brno, 21th October 2021

Nina Fahs, Irena Axmanová, Tamara Těšitelová, Jakub Těšitel