Data Request Form

To obtain data from the European Vegetation Archive (EVA), please first make an enquiry to 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 Milan Chytrý (chytry@sci.muni.cz) or another member of the EVA Coordinating Board.

- Applicant's name:

Jürgen Dengler

- Applicant's institutional address:

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- Project title:

Ecological niches and spatial distribution of the two invasive *Impatiens* species (*glandulifera*, *parviflora*) and their native congener (*noli-tangere*) in Europe

- Brief description of aims and methods of the study:

This data request is within the research initiative "Invasive species" of the Bayreuth Center for Ecology and Enviromental Research (BayCEER), which is focused on a comprehensive ecological-mechanistic understanding of invasion processes using the example of Impatiens glandulifera. In this context, we would like to conduct a large-scale comparative study between the native and the two invasive Impatiens species of Europe. This allows, for example, addressing questions such as: (i) Which environmental factors define the ecological niches of the three species, do they vary along biogeographic gradients and how large is their overlap? (using, among others, harmonised Ellenberg indicator values for Europe, possibly climate or other enviromental variables and HOF-type response curves) (ii) Which are the conditions where the two invasive species are particularly successful (quantification of invasion level per region and syntaxon)? (iii) Is it possible to quantify an effect of Impatiens glandulifera or I. parviflora invasion on plant diversity (species diversity, functional diversity, phylogenetic diversity) [the challenge of this point is to find plots that are comparable in all other aspects except the presence of the invader; alternatively, an idea proposed in a recent MS by Steinbauer et al. for New Phytologist might provide a solution]. (iv) In combination with other information on species distribution (like GBIF, distribution atlases), it might finally be possible to quantify the spatial distribution of all three species, possibly including the temporal dynamics of expansion of the two non-native species.
Since the content of vegetation-plot databases is particularly biased regarding invasive species (e.g. there might be many plots of an invasive species from one region just because there a thesis on that topic was carried out, not because the invasion level is higher there), the study is explorative in nature. Methods to be applied will have to be adjusted in a try-and-error approach, and whether and how much publishable results will emerge in the end will depend on (a) whether we can overcome such

methodological limiations and (b) how much human resources are actually available for the project beyond the initial phase.

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

Further members of the BayCEER research initiative on Invasion Biology (led by Prof. Heike Feldhaar), in particular Dr. Manuel Steinbauer, Dr. Marianne Lauerer as well as PhD student Judith Bieberich, and potentially student helpers, BSc-, MSc- and PhD students supervised by the named project leaders

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

2016-2017

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

All

- Vegetation types needed (syntaxa):

All (to quantify the level of invasion and to model the niches we also need all absences!)

- Other data selection criteria:

None

- Envisaged publications:

Not clear yet. Likely at least one publication on themes (i) and (ii) from above can be accomplished. Themes (iii) and (iv) might yield other publications, but this is rather speculative.

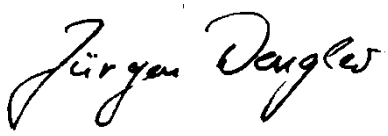
- Specification of the co-authorship arrangements in publications based on the requested data (e.g. the extent of possible involvement of the original data providers, or of EVA data managers if extra work for this project is needed from them):

We will inform all data providers as well as the EVA Coordinating Board when we have achieved major results or plan the presentation of results on a conference. In any case data providers shall be informed about the project progress at least annually.
In case a paper project should become concrete, we will announce this also to all data providers and offer that from each database that contributed at least 5% of the final dataset the custodians can propose one active co-author to join the team of authors (optionally we might accept co-authorship offers from nominees of smaller databases if they make valuable methodological/conceptual contributions). We will also offer co-authorship to the members of the EVA coordination and administration.

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).

Data Request Form

[place, date] Bayreuth, 4 September 2015



[applicant's name]