

Short Database Report

Database Species-Area Relationships in Palaeartic Grasslands

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Abstract: The Database Species-Area Relationships in Palaeartic Grasslands (GIVD ID EU-00-003) is an initiative of the European Dry Grassland Group (EDGG) and primarily functions as repository for all data sampled during the EDGG Research Expeditions. During these expeditions two types of highly standardised sampling of dry grassland vegetation in the Palaeartic realm are carried out: (i) nested-plot sampling on squares of 0.0001, 0.001, 0.01, 0.1, 1, 10, and 100 m²; (ii) additional normal relevés of 10-m² plots. For all plot sizes, the terricolous vascular plants, bryophytes, and lichens are recorded that are superficially present (shoot presence). Additionally, for all 10-m² plots species cover is estimated directly in percent and a wide range of topographic, soil, and land use parameters is determined. Five such expeditions have been carried out so far (2009: Transylvania, Romania; 2010: Central Podolia, Ukraine; 2011: NW Bulgaria; 2012a: Sicily, Italy; 2012b: N Greece). Additionally, the database contains similar nested-plot data from published and unpublished sources covering dry grasslands in Czech Republic, Estonia, Germany, the Netherlands, Russia, Sweden, Switzerland, and the United Kingdom. The vegetation classes *Festuco-Brometea* and *Koelerio-Corynephoretea* prevail, but there are also some data from Mediterranean grasslands. Presently, the database contains data from 402 nested-plot series plus 325 separate 10-m² plots. Data from future EDGG Expeditions will be added and we are open to add other nested-plot data from any type of grassland in the Palaeartic. This huge collection of nested-plot data is very valuable for the study of species-area relationships (SARs) in grasslands and how their function types and parameters (e.g. the z-values of the power-law SARs) depend on grassland type, region, and taxon considered. The 10-m² plots from the EDGG Expeditions (from inside and outside the nested plots) are an important contribution to consistent large-scale classifications as they were sampled by using a uniform plot size, recording also non-vascular plants, and consistently determining a set of plot-based environmental variables. The dataset will be available to the scientific public based on individual arrangements.

Keywords: biodiversity; bryophyte; dry grassland; European Dry Grassland Group (EDGG); *Festuco-Brometea*; *Koelerio-Corynephoretea*; lichen; Mediterranean grassland; scale dependence; soil data.

GIVD Database ID: EU-00-003		Last update: 2012-07-22
Database Species-Area Relationships in Palaeartic Grasslands		
Scope: The database collects the data resulting from the sampling of species-area relationships (SARs) in grassland communities in the Palaeartic. The core features of the database are the complete data from the EDGG Research Expeditions, but similar data from other studies are also included. Main features of the majority of relevés are: (i) they are part of nested-plot series (typically 0.0001-100 m ²), (ii) bryophytes and lichens are treated comprehensively; (iii) detailed soil and other environmental data.		
Status: emerging	Period: 1949-2012	
Database manager(s): Jürgen Dengler (juergen.dengler@uni-hamburg.de); Salza Todorova (salza.todorova@gmail.com)		
Owner: European Dry Grassland Group (EDGG)		
Web address: [NA]		
Availability: according to a specific agreement	Online upload: no	Online search: no
Database format(s): Excel	Export format(s): Excel	
Publication: Dengler, J. (2009): A flexible, multi-scale approach for standardised recording of plant species richness patterns. – Ecological Indicators 9: 1169–1178.		
Plot type(s): normal plots; nested plots	Plot-size range: 0.000001-900 m ²	
Non-overlapping plots: 727	Estimate of existing plots: 1,000	Completeness: 73%
Total plot observations: 7,202	Number of sources: 23	Valid taxa: [NA]
Countries: BG: 9.9%; CH: 3.0%; CZ: 12.3%; DE: 7.4%; EE: 2.2%; GB: 0.4%; GR: 2.3%; IT: 6.3%; NL: 0.4%; RO: 8.5%; RU: 7.9%; SE: 9.2%; UA: 30.0%		
Forest: 0% — Non-forest: aquatic: 0%; semi-aquatic: 0%; arctic-alpine: 0%; natural: 0%; semi-natural: 100%; anthropogenic: 0%		
Guilids: all vascular plants: 100%; bryophytes (terricolous or aquatic): 81%; lichens (terricolous or aquatic): 81%; algae (terricolous or aquatic): 81%; non-terricolous taxa (epiphytic, saxicolous, lignicolous): 16%		

Environmental data: altitude: 100%; slope aspect: 69%; slope inclination: 69%; microrelief: 53%; soil depth: 40%; surface cover other than plants (open soil, litter, bare rock etc.): 61%; soil pH: 47%; other soil attributes: 48%; land use categories: 72%
Performance measure(s): cover: 100%
Geographic localisation: GPS coordinates (precision 25 m or less): 80%; point coordinates less precise than GPS, up to 1 km: 20%
Sampling periods: 1940-1949: 0.4%; 1990-1999: 6.2%; 2000-2009: 44.8%; 2010-2019: 48.6%
<i>Information as of 2012-07-25; further details and future updates available from http://www.givd.info/ID/EU-00-003</i>

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