

Disturbances and Biodiversity in the Fichtelgebirge

Anke Jentsch, Constanze Buhk, Carl Beierkuhnlein, Manuel Steinbauer & Martin Alt

Abstract: Disturbance ecology, namely the interaction of natural and anthropogenic disturbance with distribution, composition and richness of biotic units is the focus of this vegetation survey. Data on presence-absence of plant species were recorded in 100 equidistant quadratic units of one hectare size covering an area of 4 x 4km². Each unit is subdivided in relevés with a similar disturbance regime enabling a spatial quantification of different disturbance agents. Disturbance types are not only measured qualitatively but assessed quantitatively (frequency, seasonality, duration, size, form, distribution, selectivity). We conducted several equally designed studies in central Europe (Franconian Jura, Fichtelgebirge, Grafenwöhr, Elbe). Comparable data are also available for sites in Namibia, Morocco, Sweden, Ethiopia and Bangladesh. The Fichtelgebirge sample site is situated in north-eastern Bavaria (32U 709860E 5557570N), Germany. It is characterized by forest (44%), agriculture (38%), and grassland (22%) and is located at about 600 m a.s.l.. The geology of the area consists of granite and phyllite bedrock; precipitation averages 650mm/yr. The mean annual temperature since 1990 is 7.3°C, (climate station Braunersgrün). Agriculture, hay and silage production, and forestry are the main forms of land use. The overall number of recorded plant species is 419. This report describes the available content in the vegetation-plot database Disturbances and Biodiversity in the Fichtelgebirge (GIVD ID EU-DE-024).

Keywords: agriculture; cultural landscape; disturbance ecology; heterogeneity; pattern; plant diversity; vegetation.

GIVD Database ID: EU-DE-024		Last update: 2012-07-11	
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Scope: Database of vegetation (presence/absence) and disturbance data (type of disturbance, frequency, duration, seasonality, size, form, distribution, selectivity). In a study area of 4 x 4km 100 systematically arranged 100 x 100m plots were divided into 524 subplots (at least 10m ²) representing land use and disturbance regime.			
Status: completed and continuing		Period: 2005-2006	
Database manager(s): Anke Jentsch (anke.jentsch@uni-bayreuth.de); Constanze Buhk (buhk@uni-landau.de); Martin Alt (alt@uni-landau.de)			
Owner: [NA]			
Web address: [NA]			
Availability: according to a specific agreement		Online upload: [NA]	Online search: [NA]
Database format(s): MS Access		Export format(s): MS Access, Excel, Open Document, CSV file, plain text file	
Publication: Buhk C, Retzer V, Beierkuhnlein C, Jentsch A (2007) Predicting plant species richness and vegetation patterns in cultural landscapes using disturbance parameters. <i>Agric Ecosyst Environ</i> 122:446-452			
Plot type(s): normal plots		Plot-size range: 4-10,000 m ²	
Non-overlapping plots: 524	Estimate of existing plots: [NA]	Completeness: [NA]	
Total plot observations: 524	Number of sources: 1	Valid taxa: [NA]	
Countries: DE: 100.0%			
Forest: [NA] — Non-forest: [NA]			
Guilds: all vascular plants: 100%			
Environmental data: other soil attributes: 100%			
Performance measure(s): presence/absence only: 100%			
Geographic localisation: [NA]			
Sampling periods: 2000-2009: 100.0%			
<i>Information as of 2012-07-12; further details and future updates available from http://www.givd.info/ID/EU-DE-024</i>			

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