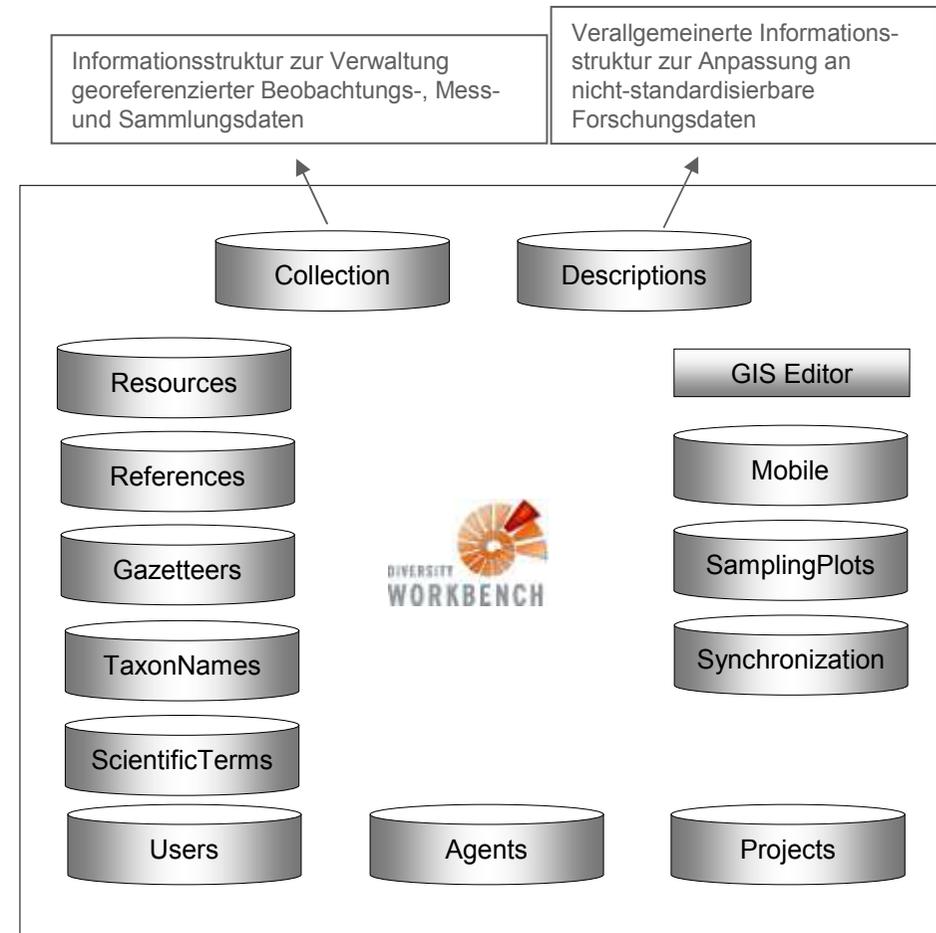


# Diversity Workbench und DiversityCollection

Systemdesign, Projekte, Datenflüsse, Netzwerke und Dienste

# Diversity Workbench Framework

- Seit 1999 Modellierung (ER-Diagramme),  
und Implementierung
- Datenbank-Komponenten (,Module‘) 14
- Tabellen 233
- Datenelemente/-attribute 1.902
- Relationen-Tabellen 251
- Webschnittstellen/Clients 27
- Quellcode-Zeilen > 706.567  
(in 1.261 Quellcode-Files)
- Seit 2007 Workshops für Anwender 18
  - Teilnehmer 148
  - Institutionen 35

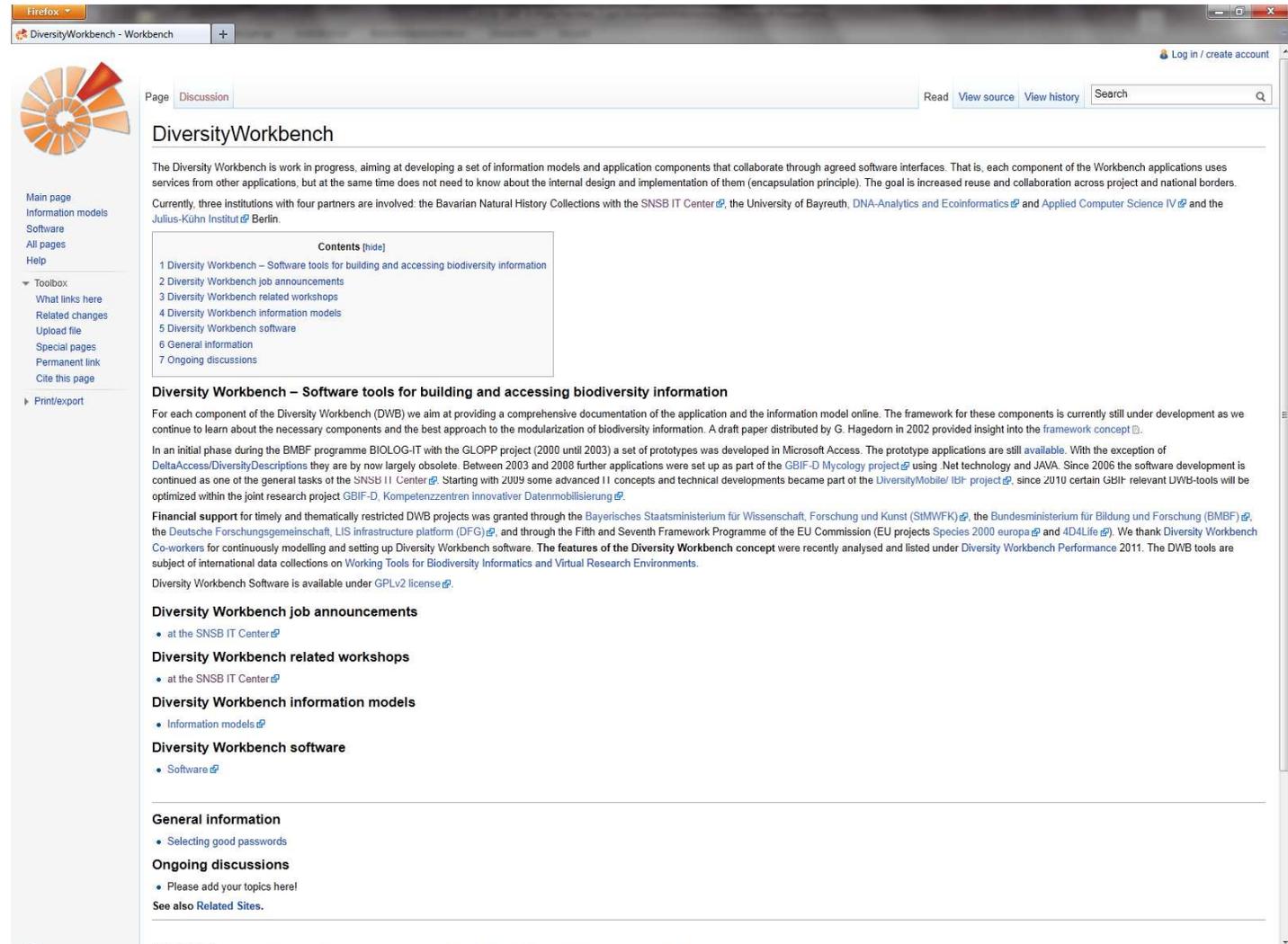


# Diversity Workbench – Work in progress

4 Partner

Download  
Center

Software unter  
GPL Lizenz



Firefox DiversityWorkbench - Workbench Log in / create account

Page Discussion Read View source View history Search

## DiversityWorkbench

The Diversity Workbench is work in progress, aiming at developing a set of information models and application components that collaborate through agreed software interfaces. That is, each component of the Workbench applications uses services from other applications, but at the same time does not need to know about the internal design and implementation of them (encapsulation principle). The goal is increased reuse and collaboration across project and national borders.

Currently, three institutions with four partners are involved: the Bavarian Natural History Collections with the SNSB IT Center, the University of Bayreuth, DNA-Analytics and Ecoinformatics and Applied Computer Science IV and the Julius-Kühn Institut Berlin.

**Contents (hide)**

- 1 Diversity Workbench – Software tools for building and accessing biodiversity information
- 2 Diversity Workbench job announcements
- 3 Diversity Workbench related workshops
- 4 Diversity Workbench information models
- 5 Diversity Workbench software
- 6 General information
- 7 Ongoing discussions

### Diversity Workbench – Software tools for building and accessing biodiversity information

For each component of the Diversity Workbench (DWB) we aim at providing a comprehensive documentation of the application and the information model online. The framework for these components is currently still under development as we continue to learn about the necessary components and the best approach to the modularization of biodiversity information. A draft paper distributed by G. Hagedorn in 2002 provided insight into the [framework concept](#).

In an initial phase during the BMBF programme BIOLOG-IT with the GLOPP project (2000 until 2003) a set of prototypes was developed in Microsoft Access. The prototype applications are still available. With the exception of [DeltaAccess/DiversityDescriptions](#) they are by now largely obsolete. Between 2003 and 2008 further applications were set up as part of the [GBIF-D Mycology project](#) using .Net technology and JAVA. Since 2006 the software development is continued as one of the general tasks of the [SNSB IT Center](#). Starting with 2009 some advanced IT concepts and technical developments became part of the [DiversityMobile/IBP project](#), since 2010 certain GBIF-relevant DWB-tools will be optimized within the joint research project [GBIF-D, Kompetenzzentren innovativer Datenmobilisierung](#).

**Financial support** for timely and thematically restricted DWB projects was granted through the [Bayerisches Staatsministerium für Wissenschaft, Forschung und Kunst \(StMWFK\)](#), the [Bundesministerium für Bildung und Forschung \(BMBF\)](#), the [Deutsche Forschungsgemeinschaft](#), [LIS infrastructure platform \(DFG\)](#), and through the [Fifth and Seventh Framework Programme of the EU Commission \(EU projects Species 2000 europa and 4D4Life\)](#). We thank Diversity Workbench Co-workers for continuously modelling and setting up Diversity Workbench software. **The features of the Diversity Workbench concept** were recently analysed and listed under [Diversity Workbench Performance 2011](#). The DWB tools are subject of international data collections on [Working Tools for Biodiversity Informatics and Virtual Research Environments](#).

Diversity Workbench Software is available under [GPLv2 license](#).

### Diversity Workbench job announcements

- at the [SNSB IT Center](#)

### Diversity Workbench related workshops

- at the [SNSB IT Center](#)

### Diversity Workbench information models

- [Information models](#)

### Diversity Workbench software

- [Software](#)

### General information

- [Selecting good passwords](#)

### Ongoing discussions

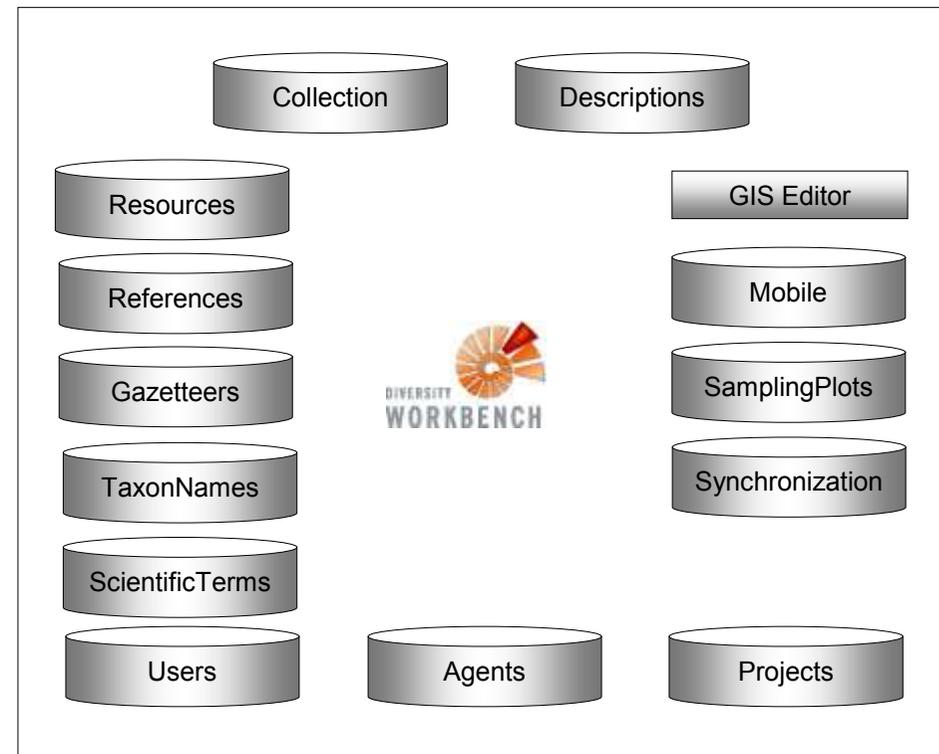
- [Please add your topics here!](#)

See also [Related Sites](#).



# Diversity Workbench Framework

- Business Solution geeignet für Datenzentren
- Direkte Interoperabilität aller Komponenten
- Virtuelle Forschungsumgebung
- Schwerpunkte für die Disziplinen
  - Taxonomie und Chemotaxonomie
  - Phytosoziologie
  - Molekulare Ökologie und Organismische Interaktionen
  - Ökophysiologie
  - Fernerkundung (p.p.)
- Datensätze aus allen organismischen Großgruppen .... Pflanzen, Algen, Pilze, Wirbeltiere, Insekten, andere Wirbellose, Fossilien



# DiversityCollection – Dateneingabe

Collection event - spreadsheet mode

Event.No. Taxonomic name Event Version

ID: 220141 2

**DiversityCollection v. 3.0.1.5**

Acc.No. **SAPM-MA-00136** Ceratotherium simum (Burchell, 1817) Specimen Event Version

IDs: **178065** 208971 3 3

Select the displayed fields

- Collection event
- Collection date
- Localisation of the collection event
- Property of the collector site
- Collection specimen
- Depositor
- Label
- Collector
- Organism
- Second organism
- Part of a specimen
- Transactions of the specimen

Specimen images



Type: photograph

With:

Notes:

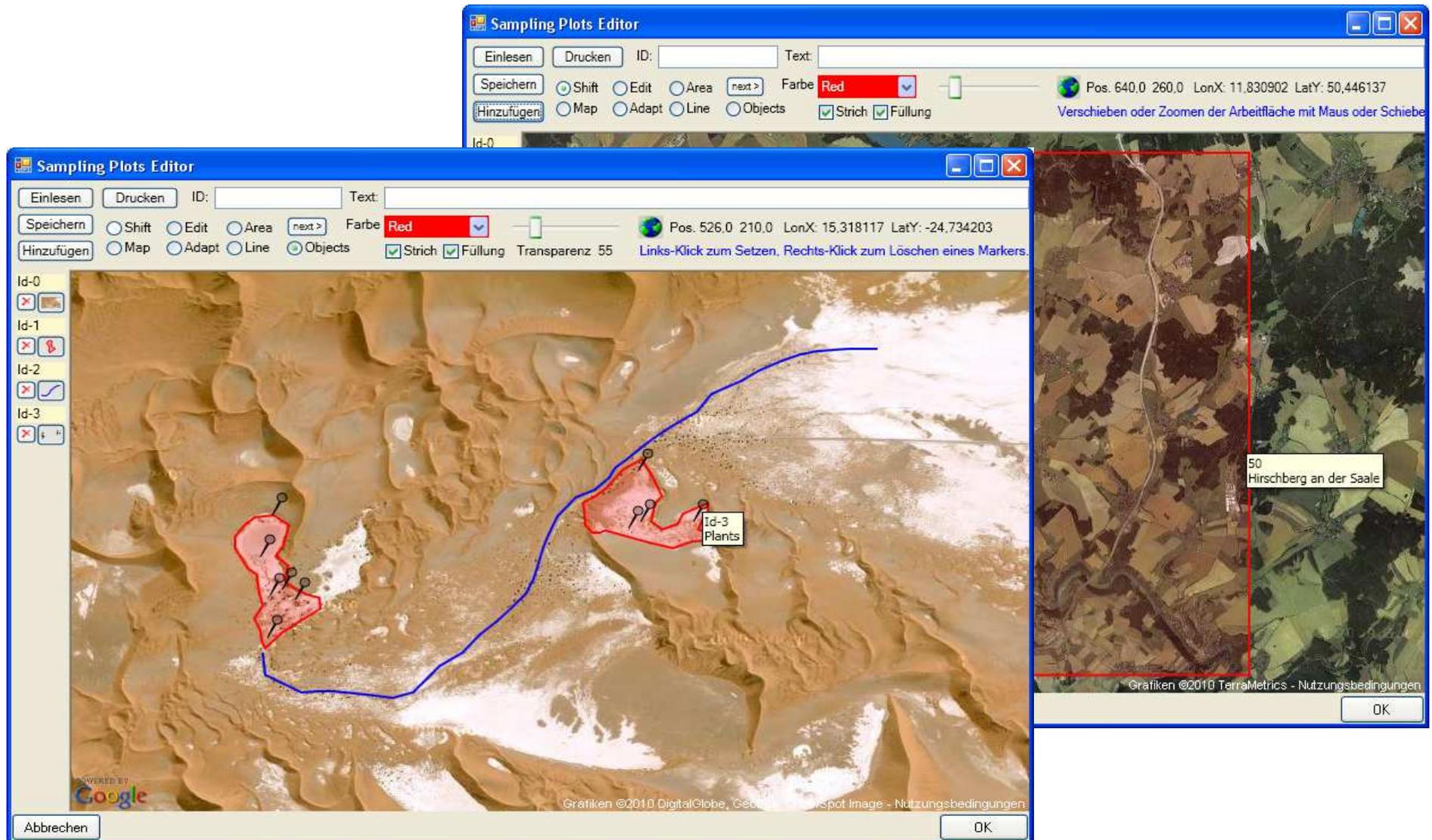
Country Locality description

Accession number	Country	Locality description	Taxonomic name	Material category	Storage location
SAPM-MA-00130	Germany	Deutschland [Tiergarten]	Ursus arctos Linnaeus, 1758	complete skeleton	Ursus arctos 11
SAPM-MA-00131	Germany	Deutschland, Bayerischer Wald, Nationalpark Bayerischer Wald	Ursus arctos Linnaeus, 1758	complete skeleton	Ursus arctos 12
SAPM-MA-00132	Germany	Deutschland [Tiergarten]	Ursus arctos syriacus Hemprich and Ehrenberg, 1828	complete skeleton	Ursus arctos 13
SAPM-MA-00133	Germany	Deutschland [Tiergarten]	Hyaena brunnea Thunberg, 1820	complete skeleton	Parahyaena brunnea 1
SAPM-MA-00134	Iraq	Irak, Isin (Isan-Bahriyat), Grabungshaus	Eptesicus nasutus (Dobson, 1877)	complete skeleton	Eptesicus nasutus 1
SAPM-MA-00135	Iraq	Irak, Isin (Isan-Bahriyat), Grabungshaus	Eptesicus nasutus (Dobson, 1877)	complete skeleton	Eptesicus nasutus 2
SAPM-MA-00136	Germany	Deutschland [Tiergarten]	Ceratotherium simum (Burchell, 1817)	complete skeleton	Ceratotherium simum 1
SAPM-MA-00137	Germany	Deutschland [Tiergarten]	Tremarctos ornatus (F. G. Cuvier, 1825)	complete skeleton	Tremarctos ornatus 1
SAPM-MA-00138	Germany	Deutschland [Tiergarten]	Tremarctos ornatus (F. G. Cuvier, 1825)	complete skeleton	Tremarctos ornatus 2
SAPM-MA-00139	Germany	Deutschland [Tiergarten]	Tremarctos ornatus (F. G. Cuvier, 1825)	complete skeleton	Tremarctos ornatus 3

Accession number Remove Insert Append Replace With line 7 of 10

Cancel OK

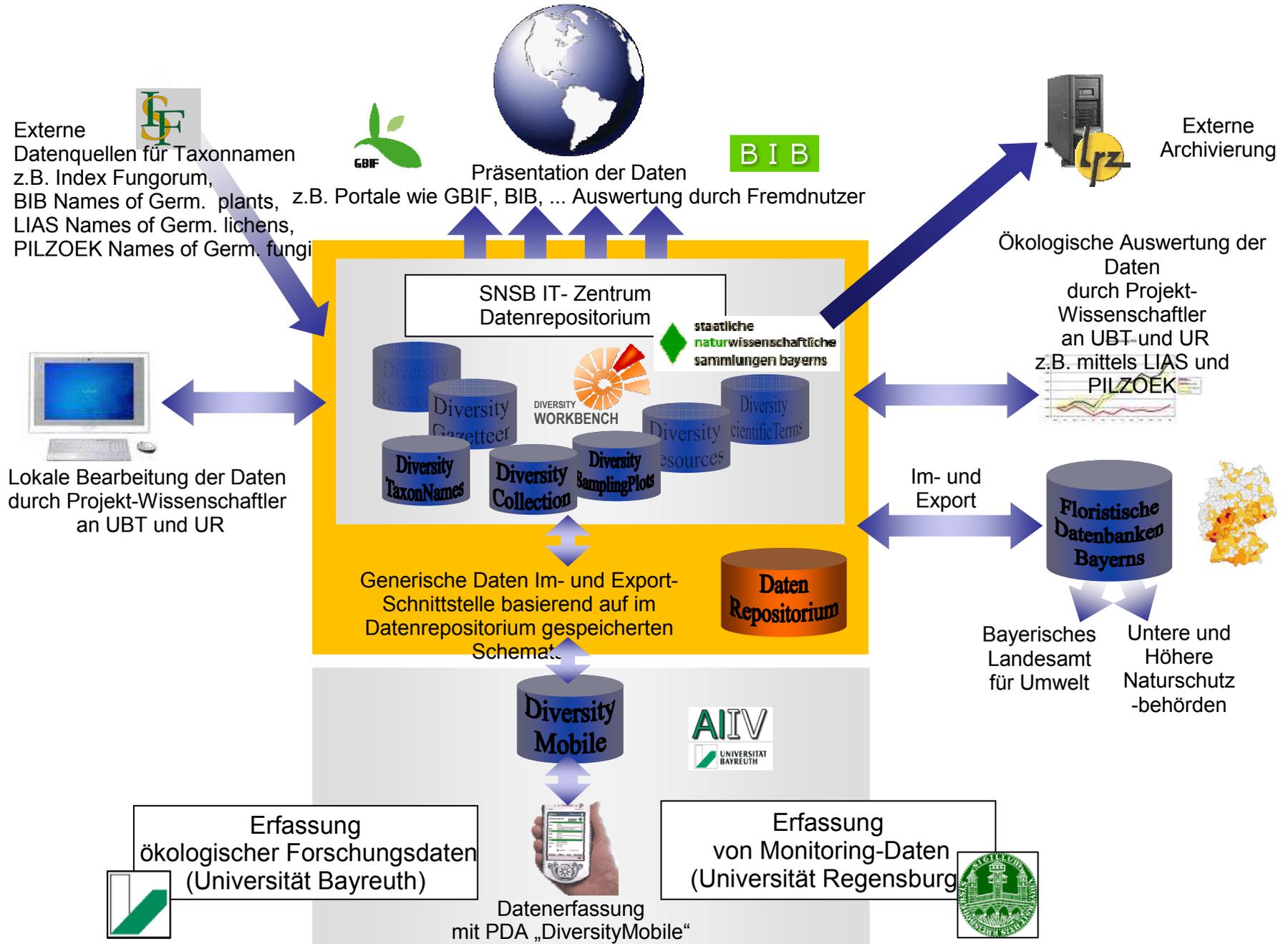
# DiversitySamplingPlots und GIS Editor



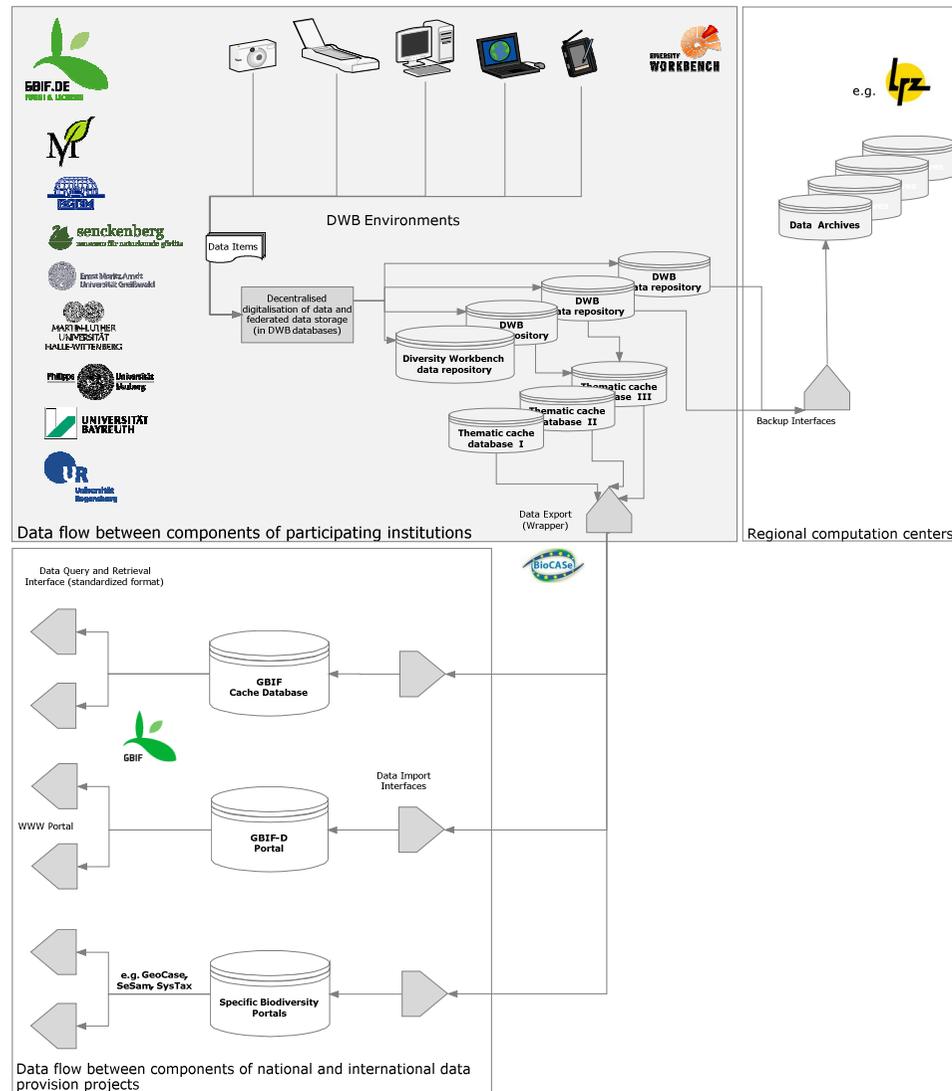
# DiversityMobile – [www.diversitymobile.net](http://www.diversitymobile.net)

- Erfassung von **raum- und zeitbezogenen Biodiversitätsdaten** in Forschungsprojekten, z. B. Inventory- und Monitoring-Projekten
- Erfassung **ökologischer Beziehungen**, z. B. auf Langzeit-Untersuchungsflächen
  - Dateneingabe über Smartphones (WindowsMobile ab Ver. 5.0) und TabletPCs

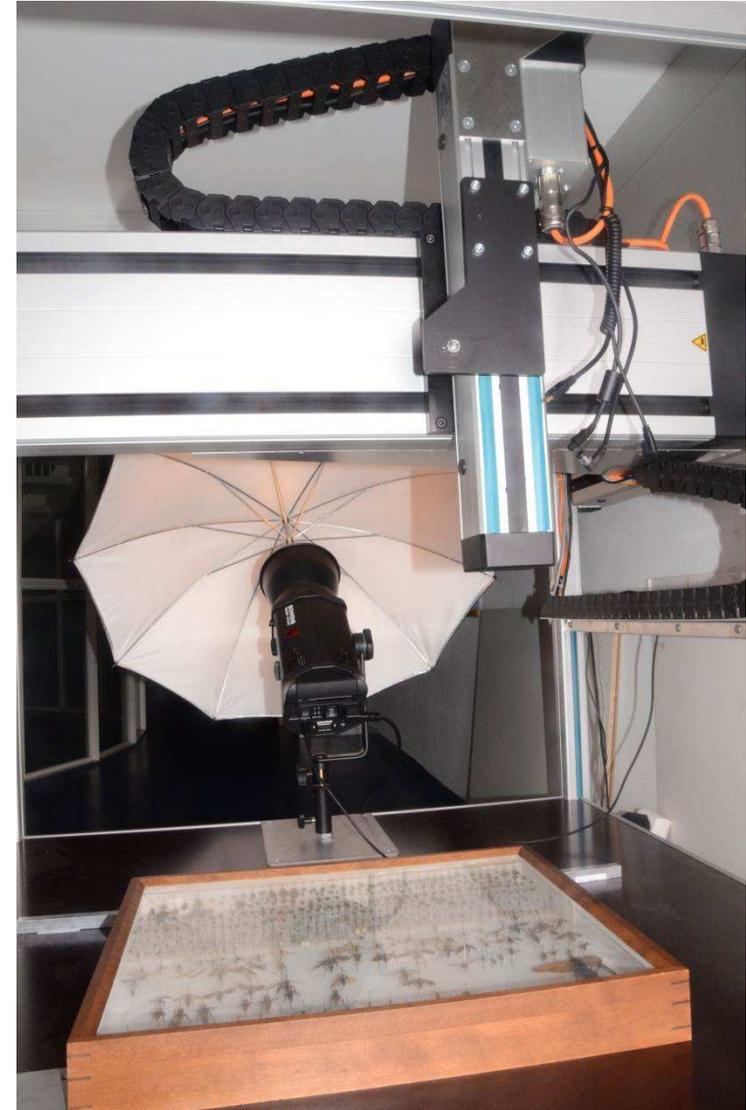
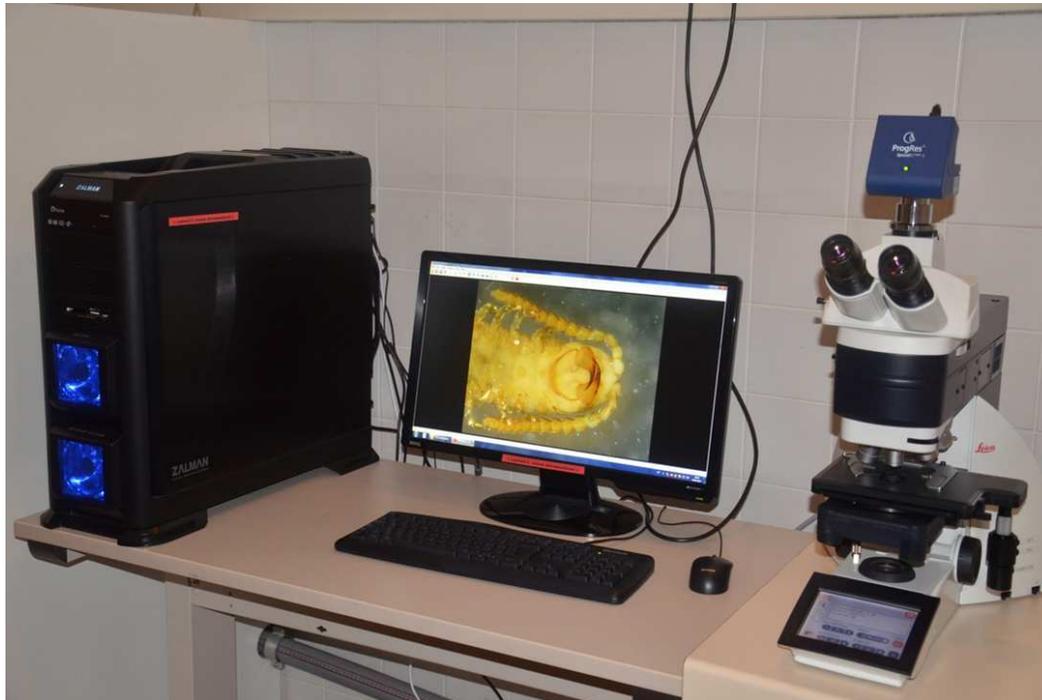




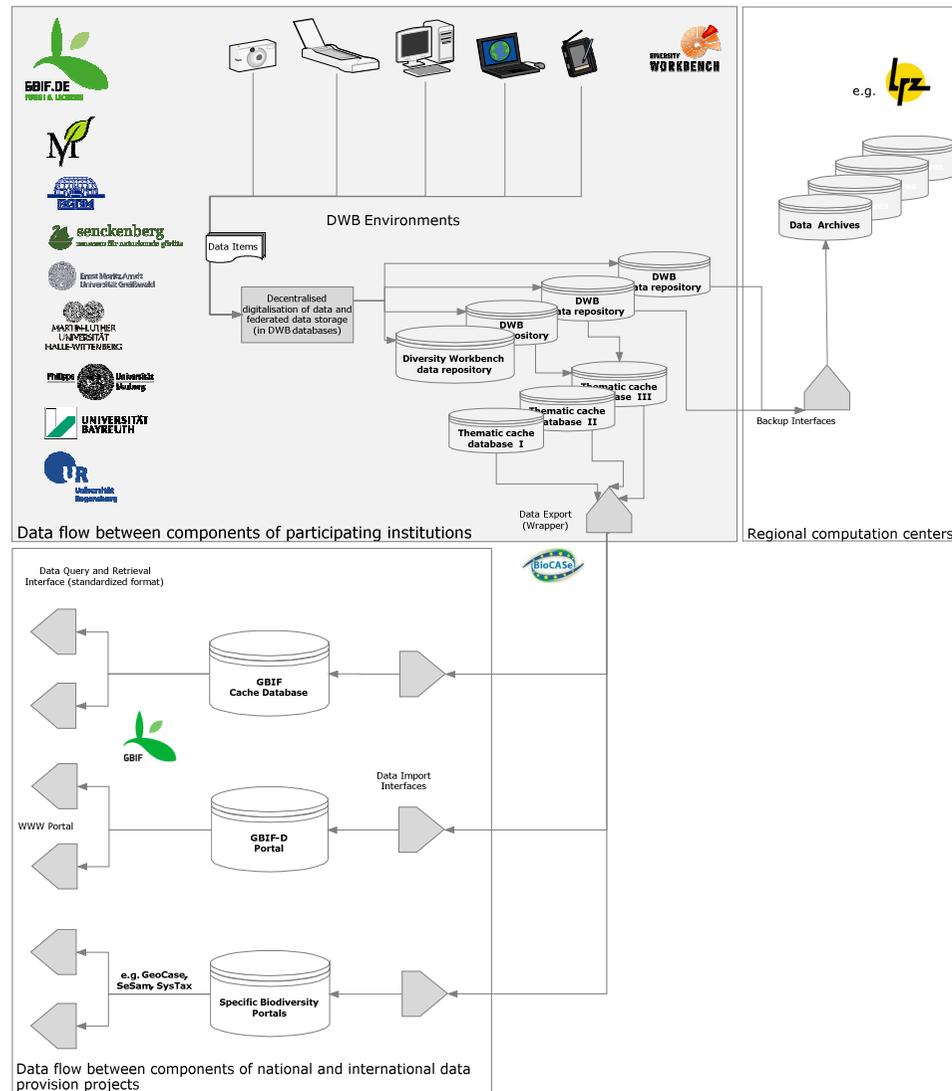
# DWB-Daten – Datenfluss



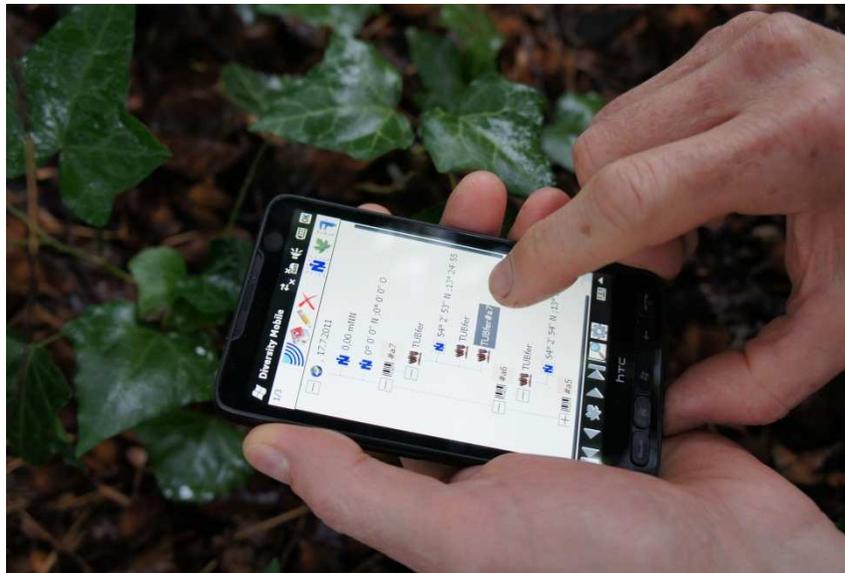
# GBIF-D Arbeitsstationen zur Objekt-Digitalisierung von Wirbellosen + DWB



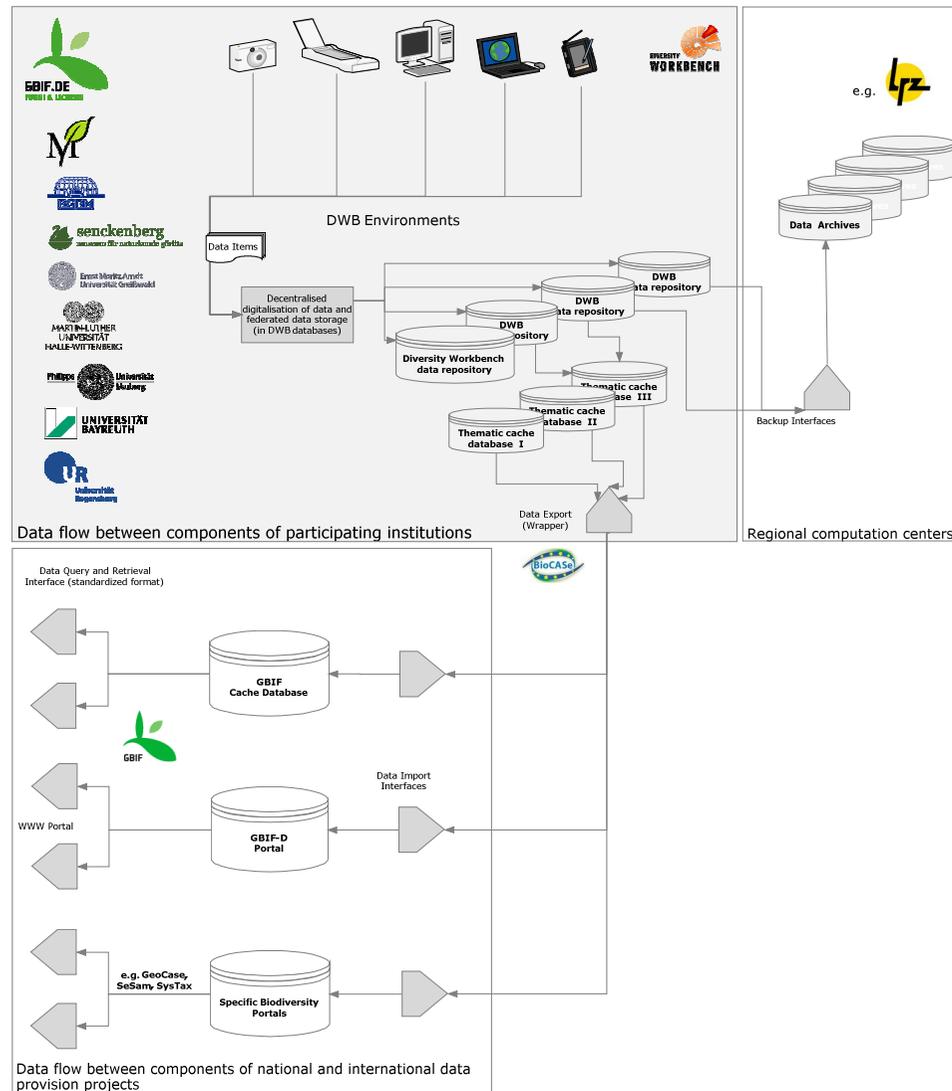
# DWB-Daten – Datenfluss



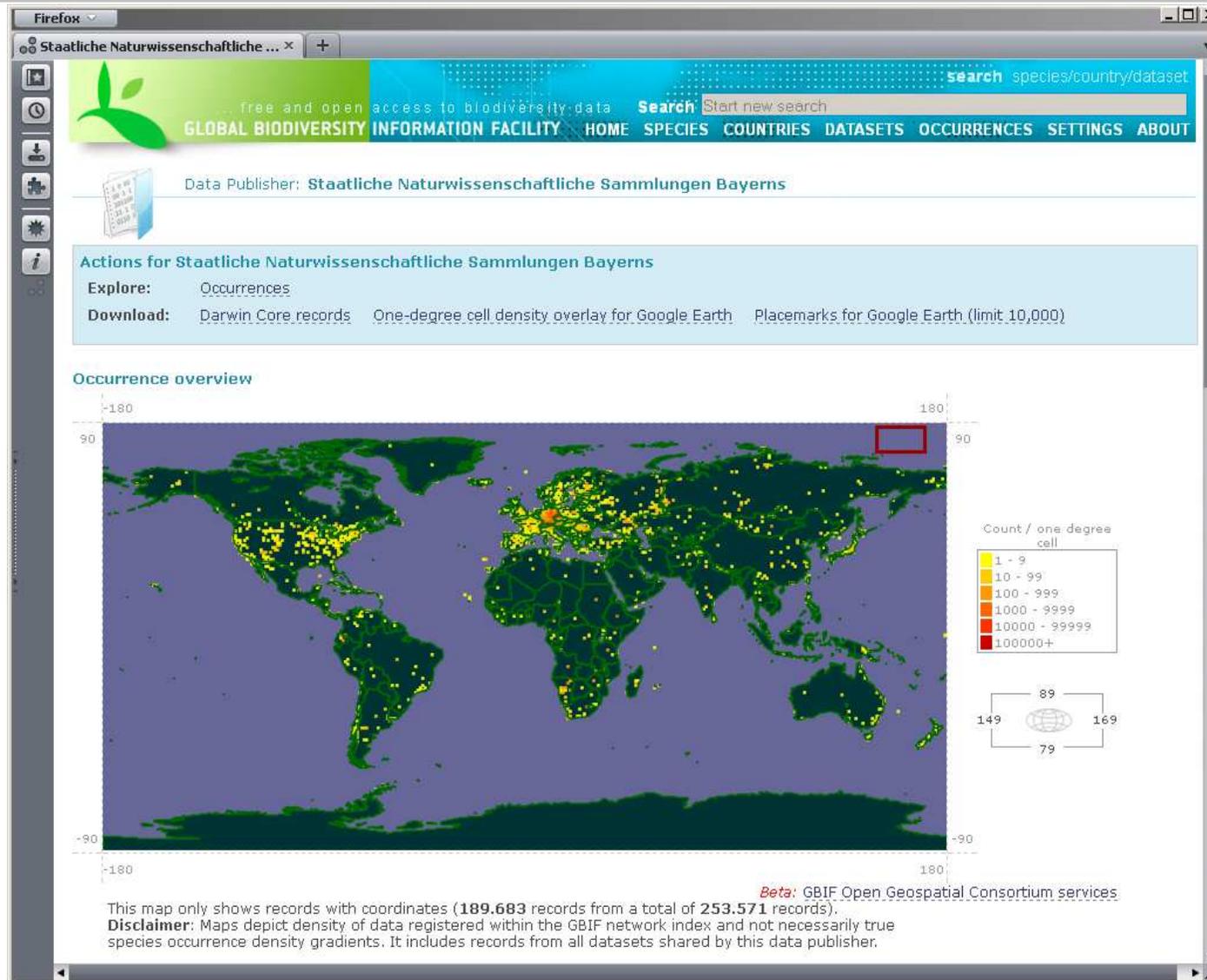
# Mobile Arbeitsstationen: Dokumenten- und Objekt-Digitalisierung + DWB



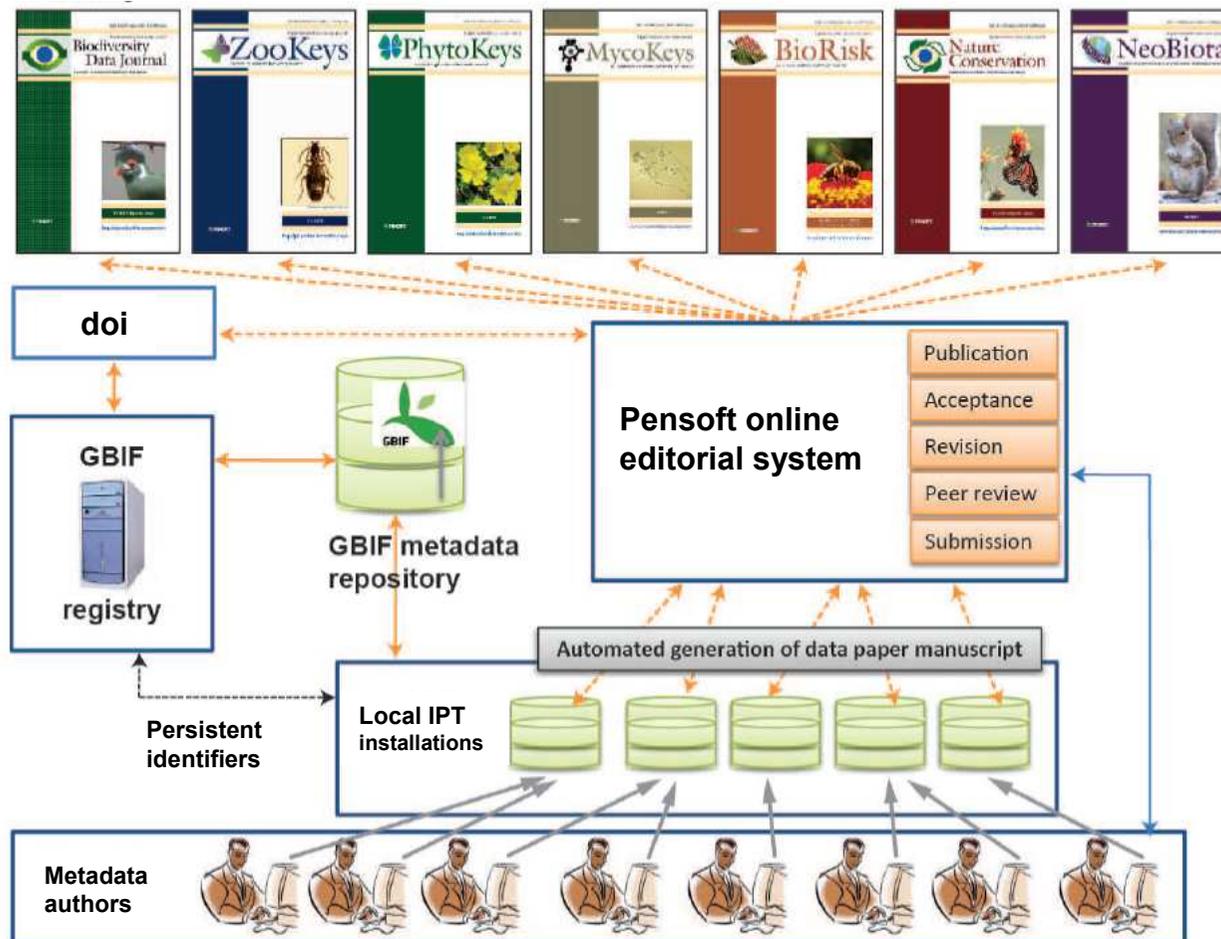
# DWB-Daten – Datenfluss Portale



# Diversity Workbench-Daten im GBIF Portal



# GBIF – Unterstützung Publikationssystem



Chavan and Penev BMC Bioinformatics 2011, 12 (suppl 15): S2; <http://www.biomedcentral.com/1471-2105/12/S15/S2>

# Diversity Workbench-Daten – Biological Collection Access Services for Europe

The image shows two overlapping browser windows displaying the BioCASE Europe Portal. The background window shows the home page with a search bar and navigation menu. The foreground window shows the search results for 'Ceratotherium simum'.

**BioCASE Europe Portal**

Home » Search » Units » Details

Thesaurus configuration Preferences Help

**Search**

Simple search  
Advanced search

**Registry**

**About**

**Contributors**

**Details**

**Units details**

<b>Ceratotherium simum (Burchell, 1817)</b>	<b>Source Institution:</b> SAPM
<b>Unit ID:</b> SAPM-MA-00136 / 211061 / 153754	<b>Collection:</b> SAPMmammaliacoll
<b>Unit GUID:</b> http://id.snsb.info/Collection/178065-211061-153754	
<b>Kind of Unit:</b> PreservedSpecimen	

**Identification(s)**

**Name:** Ceratotherium simum (Burchell, 1817)

**Multimedia**



BioCASE Web-Administrator, Email: admin@biocase.org  
Email: secretariat@biocase.org, FAX: +49 (3) 030 838-5200  
Address: Botanischer Garten und Botanisches Museum, Freie Universität Berlin, Königin-Luise-Str. 6

# Diversity Workbench-Daten – Geosciences Collection Access Service for Europe

The image shows two browser windows. The left window displays the main GeoCASE website, which includes a navigation menu (Home, Data Access, Join the Network, Tutorial, About the Project) and introductory text about the ABCDEFG service. The right window shows the 'Simple ABCDEFG provider access portal', which features a search form with various criteria and a 'Search' button.

**GeoCASE Website Content:**

March 2011 - The Natural History Museum Vienna has joined the GeoCASE network

**Geosciences Collection Access Service**

Home Data Access Join the Network Tutorial About the Project About

ABCDEFG (Access to Biological Collection Databases Extended for Geosciences) is an > developed for use with palaeontological, mineralogical and geological digitalized collection data. It extends the ABCD-XML-Schema (Access to Biological Collection Databases) used by GBIF (Glo

The ABCDEFG-XML-Schema is used to apply a mapping to the local data source and it is supp Software is easy to install and provides a very handy user interface for database description a mediates between the local data source and the GeoCASE Portal by sending and receiving XML

ABCDEFG is proposed to the organisation of biodiversity information standards TDWG (Taxo standard for geoscientific collections. GeoCASE will be adopted by GBIF as soon as possible. The schema provides a general geoscientific collections. It does not replace an individual database management software.

The BioCASE Provider Software may be obtained from [http://biocase.org/products/provider\\_snfw](http://biocase.org/products/provider_snfw)

For further information on ABCD visit <http://wiki.tdwg.org/ABCD/>.

For further information on the EFG Extension download the [ABCDEFG-XML-Schema document /efg\\_schema.pdf](#) or use the following documentation on this website.

ABCDEFG Schema Documentation:

Schema **abcdefg.xsd**

schema location: <http://www.geocase.eu/documentation/abcdefg.xsd>  
targetNamespace: <http://www.synthesys.info/ABCDEFG1.0>

Elements

- [AnalysisDateTime](#)
- [AnalysisReferences](#)
- [Certainty](#)
- [DatingQualifier](#)
- [IdentificationAnalysis](#)
- [NamedGeologicalFeature](#)
- [StratigraphicMeasurementsOrFacts](#)

Complex types

- [AllocthonousMaterialType](#)
- [AlterationType](#)
- [AnalysisAtomisedType](#)
- [AssociatedFossilAssemblageType](#)
- [AssociatedMineralAssemblageType](#)
- [BiostratigraphicAttributionsType](#)
- [ChronostratigraphicAttributionsType](#)
- [EarthScienceSpecimenType](#)
- [IdentificationAnalysisType](#)
- [IdentifiersType](#)
- [IsotopeStratigraphicDeterminationsType](#)
- [LithostratigraphicAttributionsType](#)
- [MagnetostratigraphicDeterminationsType](#)
- [MineralogicalUnitType](#)
- [MineralRockIdentifiedType](#)
- [PalaeontologicalUnitType](#)
- [RadiometricDatesType](#)

**Simple ABCDEFG provider access portal**

**Important Note:**

This is a simple data portal for the [GeoCASE network](#). It uses [BioCASE](#) technology to perform a distributed query on ABCDEFG providers, using the BioCASE protocol. Since searches are performed on the original provider's databases, they might take some time and yield less results than expected, if some of the providers are offline.

**★ Query ABCDEFG Data Providers:**

First, choose the type of database you want to query, you can search for either paleontological or mineralogical data. Then enter your search criteria, using \* as a wildcard. Please note that not all data has yet been translated into English for this prototype version. If you would like to receive the full response in xml format, please supply a valid email address.

**Fossils Minerals & Rocks**

Scientific name or a part of it (e.g. Archegosaurus*)	<input type="text"/>
Higher taxon name (e.g. Amphibia)	<input type="text"/>
Chronostratigraphic attribution (e.g. Permian)	<input type="text"/>
Country name (e.g. Germany)	<input type="text"/>
Named Area (e.g. Saarland)	<input type="text"/>
Locality (e.g. *Saalfeld*)	<input type="text"/>
Enter your email address for a full result response email:	<input type="text"/>
Limit max. number of results per database to	<input type="text" value="10"/>
Wait for not more than	<input type="text" value="15"/> sec. for a database to respond (consider raising this timeout level if you get insufficient results).
<input type="button" value="Search"/>	

Powered by:

© 2005-2009 Freie Universität Berlin, Botanischer Garten und Botanisches Museum Berlin-Dahlem  
Seitenverantwortliche/Page editors: J. Holetschek, A. Hahn, M. Döring, C. Dancea, A. Güntsch  
BGBM Impressum/Imprint; Haftungsausschluss/Disclaimer

# Diversity Workbench-Daten im SysTax-Portal

The screenshot shows a web browser window displaying the SysTax portal. The browser's address bar shows the URL "Wirbellose II Systax Abfrage | Gbi...". The page layout includes a top navigation bar with the GBIF.DE logo and the DLR logo. Below this, there are three main columns:

- Left Column:** A vertical navigation menu with sections for "GBIF-D Wirbellose II" (containing links like Home, Datenabfrage, etc.), "GBIF-Deutschland" (containing links like GBIF.DE Home, News, etc.), "GBIF International" (containing links like GBIF International Home, etc.), and "User login" with a "Username:" field.
- Center Column:** A yellow-highlighted section titled "SysTax - German GBIF portal - zoological and botanical collection data". It features a search form with fields for "data source" (set to "all data sources"), "restriction" (set to "zool. collections only"), "types only", "with images only", "with sound only", "sort order" (set to "taxon, institute"), and "display" (set to "short"). There are "help" and "print" buttons above the search form.
- Right Column:** A "Search" section with a "Search this site:" input field and a "Search" button. Below it is a news item titled "BMBF stärkt deutschen Beitrag zur Global Biodiversity Information Facility (GBIF)" with a small logo and text describing the facility's role.

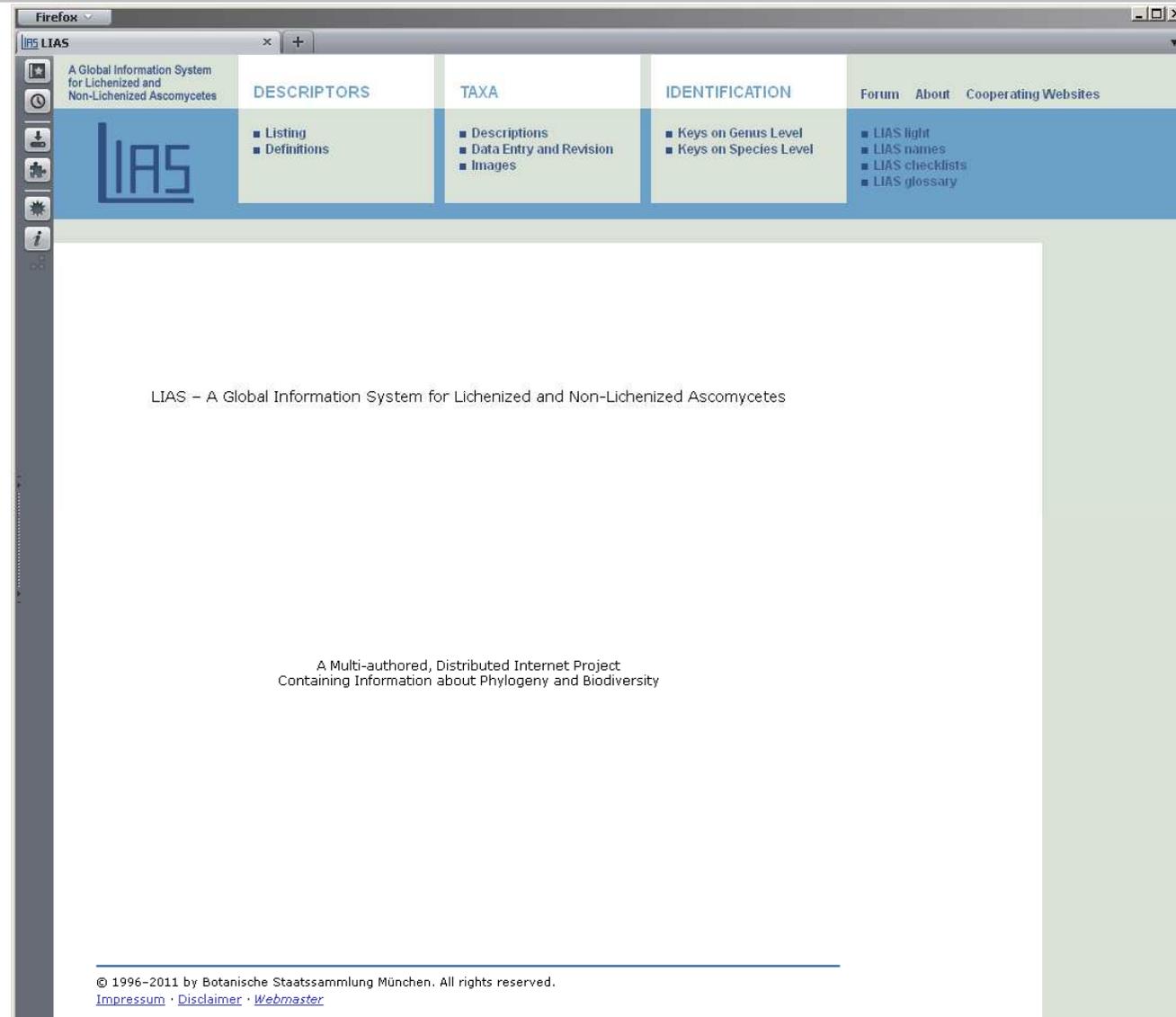
At the bottom of the page, there is a copyright notice: "© SysTax - Universität Ulm & Ruhr-Universität Bochum; script last modified: 16.09.2009".

# Diversity Workbench-Daten in LIAS

LIAS, ein  
Informationssystem für  
deskriptive und  
taxonomische  
Daten

seit 1996 online

seit 2001  
Daten in DWB-  
Komponenten



# Diversity Workbench-Daten in Catalogue of Life

The image shows two overlapping browser windows from the Catalogue of Life website. The top window displays the search interface, and the bottom window displays a list of biodiversity databases.

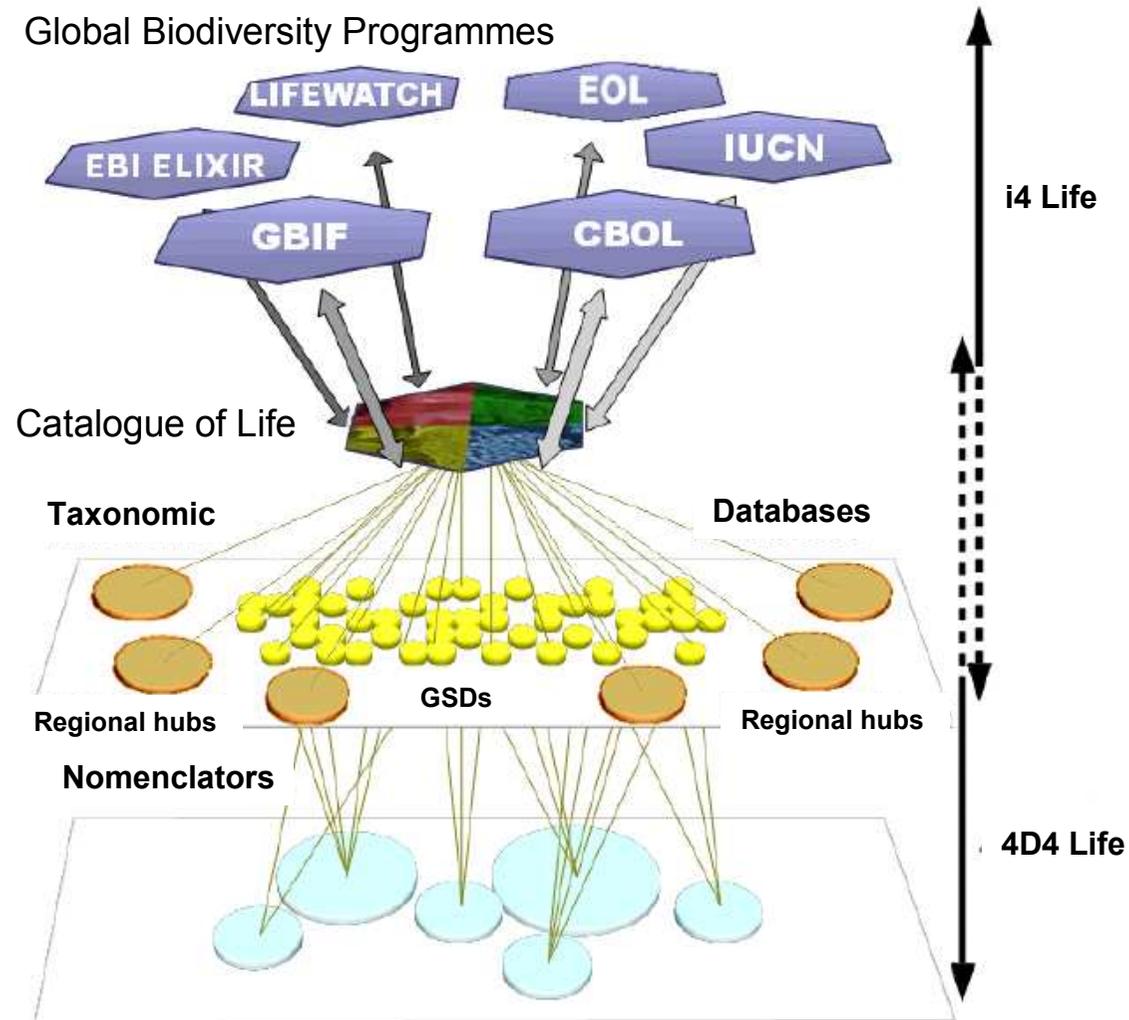
**Search Interface (Top Window):**

- Species 2000 ITIS
- Catalogue of Life: 2011 Annual Checklist
- indexing the world's known species
- Search the Annual Checklist - fixed edition each year
- Search for: [input field]
- Match whole words only
- Search
- Annual Checklist Interface v1.6 [r1017] developed by ETI BioInformatics

**Biodiversity Database List (Bottom Window):**

Database Name	Icon	Category	Count
LepIndex: The Global Lepidoptera Names Index		Butterflies and moths	243,006
LHD: Lacistemataceae Holistic Database		Waits Nuni plant family	28
LIAS: A Global Information System for Lichenized and Non-Lichenized Ascomycetes <b>NEW!</b>		Lichens	5,499
MantodeaSF: Mantodea Species File		Praying mantids	2,403
MBB: Moss Bug Base		Moss bugs	32
Mites GSDs: OlogamasidBase		Ologamasid mites	446
Mites GSDs: PhytoseiidBase		Phytoseiid mites	2,186
Mites GSDs: RhodacaridBase		Rhodacarid mites	145
Mites GSDs: TenuipalpidBase		Tenuipalpid mites	887
MOST: Moss TROPICOS Database		Mosses	13,365
MOWD: Membracoidea of the World Database <b>NEW!</b>		Treehoppers and leafhoppers	15,392
Nomen.eumycetozoa.com		Slime moulds	1,034

# Catalogue of Life – Datenfluss



<http://www.i4life.eu/>

# Dienstleistungen für GBIF Deutschland

**GBIF-DE**

**Home**

## Global Biodiversity Information Facility - Deutschland

English Version

Die internationale Initiative **Global Biodiversity Information Facility (GBIF)** hat sich zum Ziel gesetzt, wissenschaftliche Daten und Informationen zur weltweiten Artenvielfalt in digitaler Form über das Internet frei und dauerhaft verfügbar zu machen.

### Ziele und Beteiligte von GBIF-D

Deutschland gehört zu den Gründungsmitgliedern der Global Biodiversity Information Facility (GBIF). Seit Ende 2010 arbeitet **GBIF-Deutschland (GBIF-D)** im Rahmen eines BMBF-finanzierten Verbundvorhabens an der gezielten Zusammenstellung und Mobilisierung aller bundesweit geeigneten Sammlungs-, Forschungs-, Beleg- und Observationsdaten zur Umsetzung des GBIF-Leitbildes ([pdf](#)). Als Verbundpartner sind insgesamt **acht GBIF-Knoten an deutschen Forschungsanstalten** aktiv:

- BGBM Berlin-Dahlem für das Teilprojekt **Koordination**
- DSMZ Braunschweig für das Teilprojekt **Bakterien & Archaeen**
- BGBM Berlin-Dahlem für das Teilprojekt **Pflanzen, Algen & Protisten**
- BSM München für das Teilprojekt **Pilze & Flechten**
- MfN Berlin für das Teilprojekt **Insekten**
- ZSM München für das Teilprojekt **Wirbellose II**
- Senckenberg Frankfurt für das Teilprojekt **Wirbellose III**
- ZFMK Bonn für das Teilprojekt **Wirbeltiere**
- MfN Berlin für das Teilprojekt **Fossilien**

Sprecher GBIF-D: Walter Berendsohn (Wiederwahl 2009)  
Stellvertretende Sprecherin GBIF-D: Dagmar Triebel (seit 2009)  
Sprecher der IT-Kommission: Anton Güntsch

Weitere fachliche und technische Begriffe im Zusammenhang mit der GBIF-Arbeit finden Sie im [Glossar](#). Informationen für Pressevertreter sind [hier](#) hinterlegt.

**Search**

Search this site:

**BMBF stärkt deutschen Beitrag zur Global Biodiversity Information Facility (GBIF)**

SPONSORED BY THE  
Federal Ministry of Education and Research

Die Global Biodiversity Information Facility (GBIF) hat sich als weltweit führende Informationsinfrastruktur für den Bereich der organismischen Vielfalt etabliert und bewährt (<http://data.gbif.org>).

Deutschland ist eines der Gründungsmitglieder von GBIF und seit Jahren einer der größten Biodiversitätsdatenanbieter weltweit.

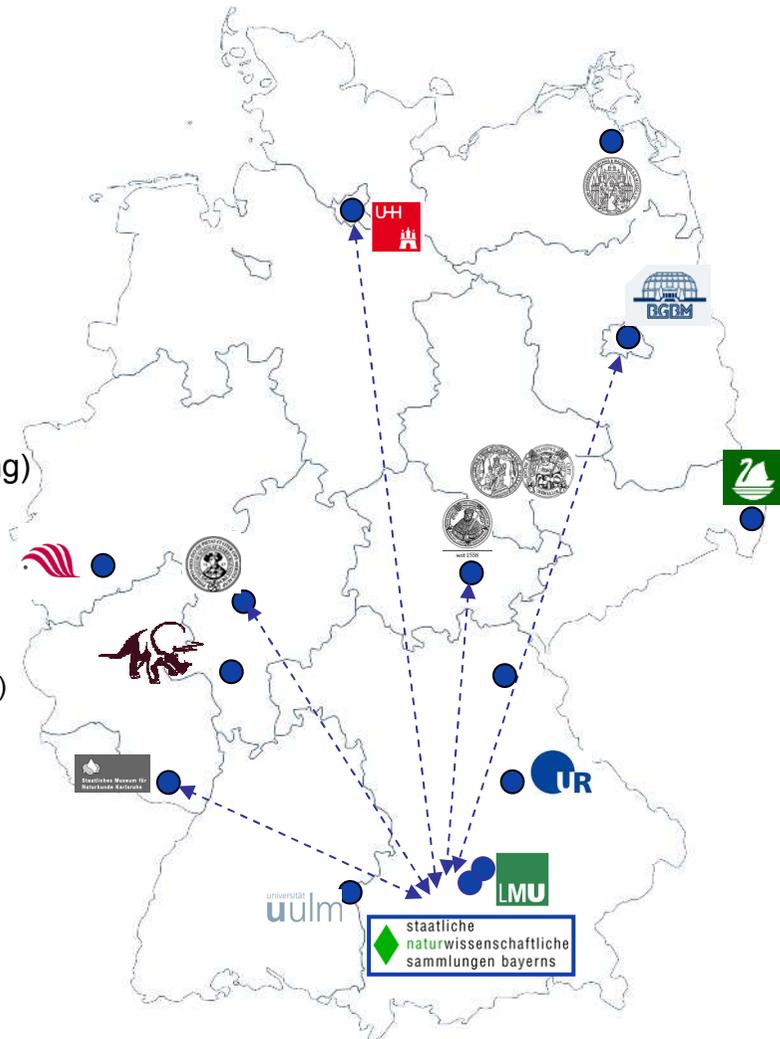
**GBIF-Publikationen demnächst im „GBIF Online Resource Centre“ zusammengefasst.**

**GBIF**

Entsprechend dem aktuellen GBIF-Arbeitsprogramm laufen

# Nationale Kooperationen

- **Datenaufnahme** (via DWB-VRE-Clients; aktuell ca. 120 Remote Clients)
  - Senckenberg Museum für Naturkunde Görlitz (Sammlung)
  - Universität Bayreuth (Lehre, Forschung)
  - Universität Greifswald (Forschung)
  - Universität Halle-Wittenberg (Sammlung)
  - Universität Hamburg (Forschung)
  - Universität Marburg (Sammlung)
  - Universität München LMU (Lehre, Forschung)
  - Universität Regensburg (Bayernflora-Datenbank)
  - u. a.
- **Datentransfer** (Aufnahme v. Komplettbeständen, Datenrettung)
  - Staatliches Museum für Naturkunde Karlsruhe (Biota-Applikation)
  - Universität Greifswald (MyxDB)
  - Universität Tübingen (TUB-Bilddatenbank)
  - Universität Ulm (SysTax)
  - Zoologisches Forschungsmuseum Alexander Koenig Bonn (BIODAT)
  - u. a.
- **Datenbereitstellung, -publikation** (Anbindung Datennetzwerke Deutschland)
  - BIB Bayern Portal
  - SeSam Portal (vereinbart)
  - SysTax Portal (im Rahmen GBIF-D vereinbart)
  - GBIF-Deutschland Portal (im Rahmen GBIF-D vorgesehen)



# SNSB IT-Zentrum – Web-Präsenz

- Informationsportale 14
- Standard-Thesauri online 3
- Online Datenprojekte 30–35
- BioCase-Wrapper, publ. Daten >250.000
- Digitalisate >500.000
- Remote Zugänge (VRE) 120
- GBIF-D Knoten 3

contact impressum disclaimer webmaster

snsb it center

HOME ABOUT US PEOPLE SERVICES WORKSHOPS

Services and Products

Beside data curation tasks as mentioned under [Home](#) and [About us](#) the SNSB IT Center is running services and products in the thematic areas below.

- ▶ **Software Design and Implementation**
  - DIVERSITY WORKBENCH
  - DIVERSITY MOBILE
  - MOBILE
- ▶ **Development of Web Portals for Collections**
  - M
  - GBIF DE FUNGI & LICHERN
  - STAATSSAMMLUNG FÜR ANTHROPOLOGIE UND DALADANATOMIE MUC. **SAPM**
- ▶ **Species Information Systems**
  - DEEMY
  - LIAS
  - MELNET
  - Myxomycota Germany
- ▶ **Portals with General Biodiversity Information**
  - THE MYCOLOGY .NET
  - MYCO PHYLOGENY
  - THE PHYCOLOGY .NET
- ▶ **Literature Catalogues and Bibliographies**
  - DALI
  - IndExs
  - Index Maps
  - MyxLit
- ▶ **Services for Internet Platforms**
  - Catalogue of Life
  - GBIF
  - IAL
  - STOR

staatliche naturwissenschaftliche sammlungen bayerns

# Diversity Workbench – Workshop heute



Infos unter

<http://www.snsb.info> → dort Link zu „IT Workshops“