

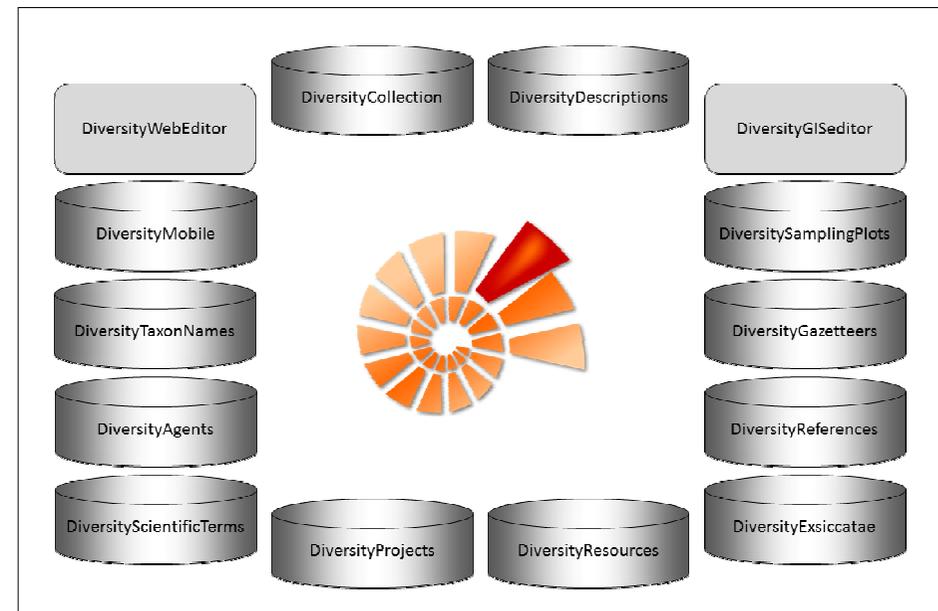
Diversity Workbench

Einführung

Dagmar Triebel

DWB – System aus SQL-Datenbanken

- Für Datenzentren/ Sammlungen, aber auch für Einzelanwender und große Forschungsprojekte
- Direkte Interoperabilität von 12 Datenbank-Komponenten
- Datenbanken nach Datendomänen
- Lokale Installation möglich, wie auch Client-Server Netzwerke
- Diversitätsdatensätze aus allen organismischen Großgruppen
.... Pflanzen, Algen, Pilze, Wirbeltiere, Insekten, andere Wirbellose, Fossilien
- Monitoringdaten, ökologische und molekulare Daten



DWB – Open Source Code Repositorien

- z. Zt. 5 Entwickler: SNSB + UBT
- Quellcode in 2 Code-Repositorien
- Quellcode-Zeilen >1.3 Mill.
(in 2.835 Quellcode-Dateien)
(*Status 10.2015)
- GPL 2 Lizenz

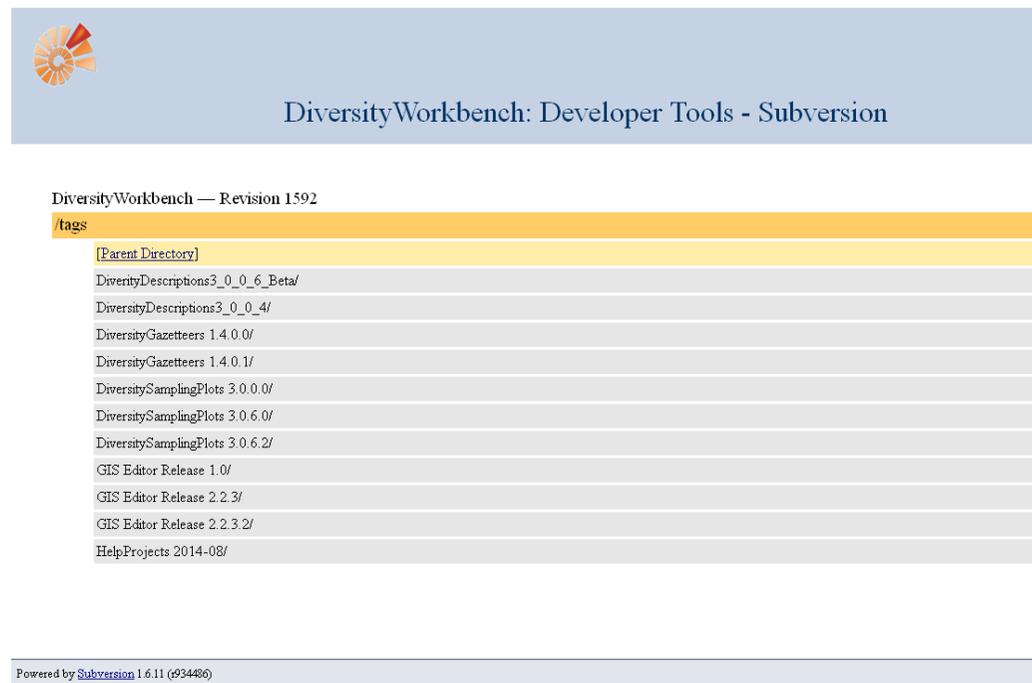


GitHub Search GitHub Explore Features Enterprise

 **Staatliche Naturwissenschaftliche Sammlungen Bayerns**

Partner: University of Bayreuth <http://www.ai4.uni-bayreuth.de/de/index.html> - DWB at <http://svn.snsb.info/repos/DiversityWorkbench/>

Munich <http://www.snsb.info>



 DiversityWorkbench: Developer Tools - Subversion

DiversityWorkbench — Revision 1592

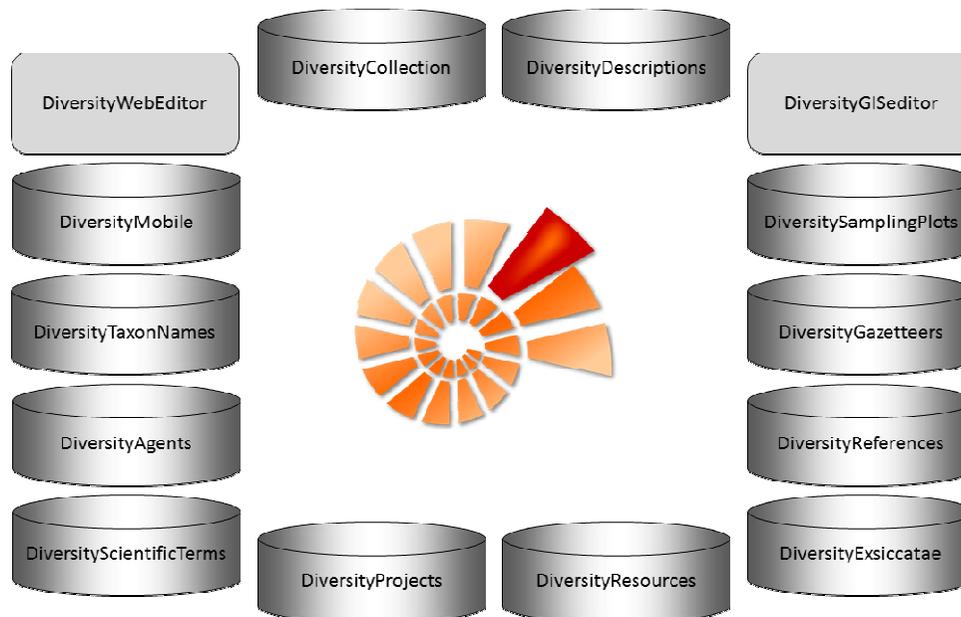
/tags

[Parent Directory]
DiversityDescriptions3_0_0_6_Beta/
DiversityDescriptions3_0_0_4/
DiversityGazetteers 1.4.0.0/
DiversityGazetteers 1.4.0.1/
DiversitySamplingPlots 3.0.0.0/
DiversitySamplingPlots 3.0.6.0/
DiversitySamplingPlots 3.0.6.2/
GIS Editor Release 1.0/
GIS Editor Release 2.2.3/
GIS Editor Release 2.2.3.2/
HelpProjects 2014-08/

Powered by [Subversion 1.6.11](#) (934486)

DWB-Anwender mit DB-Installationen (soweit bekannt)

- Installationen am SNSB inkl. ZSM (diverse VM und Instanzen; inkl. Datenbank(DB)-Hosting für rund 20 Partnerorganisationen; v.a. Unis) z. Zt. 150 Anwender
- Installationen am ZFMK z. Zt. 40 Anwender
- Installation am SMNK z. Zt. 15 Anwender
- Installation am SMNS z. Zt. 10 Anwender



DFG RIsources: DWB empfohlen

Detailseite

[→ Zurück](#)

Diversity Workbench – Software components for building and accessing biodiversity information (DWB)

Das Projekt Diversity Workbench (=DWB) wurde in 2000 gestartet und wird kontinuierlich fortgesetzt. Basierend auf dem DWB Konzept werden SQL-Datenbanken und Datenbankschnittstellen entwickelt, um sämtliche Typen von georeferenzierten quantitativen und qualitativen Beobachtungs-, Sammlungs- und Messdaten aus den Bereichen Bio- und Geodiversitätsforschung und Ökologie zu verwalten. Dazu wird ein modularisiertes Komponenten-Framework zur Datengenerierung, -erhaltung und -prozessierung aufgebaut (12 eigenständige, interoperable Datenbanken, jeweils mit Rich-Clients zum Datenmanagement sowie browserbasierten Anwender-Schnittstellen, s.u. www.diversityworkbench.net/Portal/Diversity_Workbench_Performance und Apps für Smartphones). Der DWB Namensraum umfasst rund 2.000 Elemente. ER-Modelle zu den einzelnen Entwicklungen werden in regelmäßigen Abständen publiziert. Die Software steht als open source-Entwicklung zum download bereit. Neben den unten genannten Trägern agiert das Julius Kühn-Institut Berlin http://www.jki.bund.de/nn_813794/ als weiterer Partner.

Adresse: Menzinger Straße 67
80638 München
Bayern
Deutschland

[↗ Zur Webseite](#)

Träger

Staatliche Naturwissenschaftliche Sammlungen Bayerns, SNSB

IT-Zentrum

Menzinger Straße 67
80638 München
Bayern
Deutschland
[↗ http://www.snsb.info/](http://www.snsb.info/)

Universität Bayreuth, DNA-Analytik und Ökoinformatik

Geb. NW1, Universitätsstraße 30
95447 Bayreuth
Bayern
Deutschland
[↗ http://www.daneco.uni-bayreuth.de](http://www.daneco.uni-bayreuth.de)

Universität Bayreuth, Lehrstuhl für Angewandte Informatik IV Datenbanken und Informationssysteme

Universitätsstraße 30
95447 Bayreuth
Bayern
Deutschland

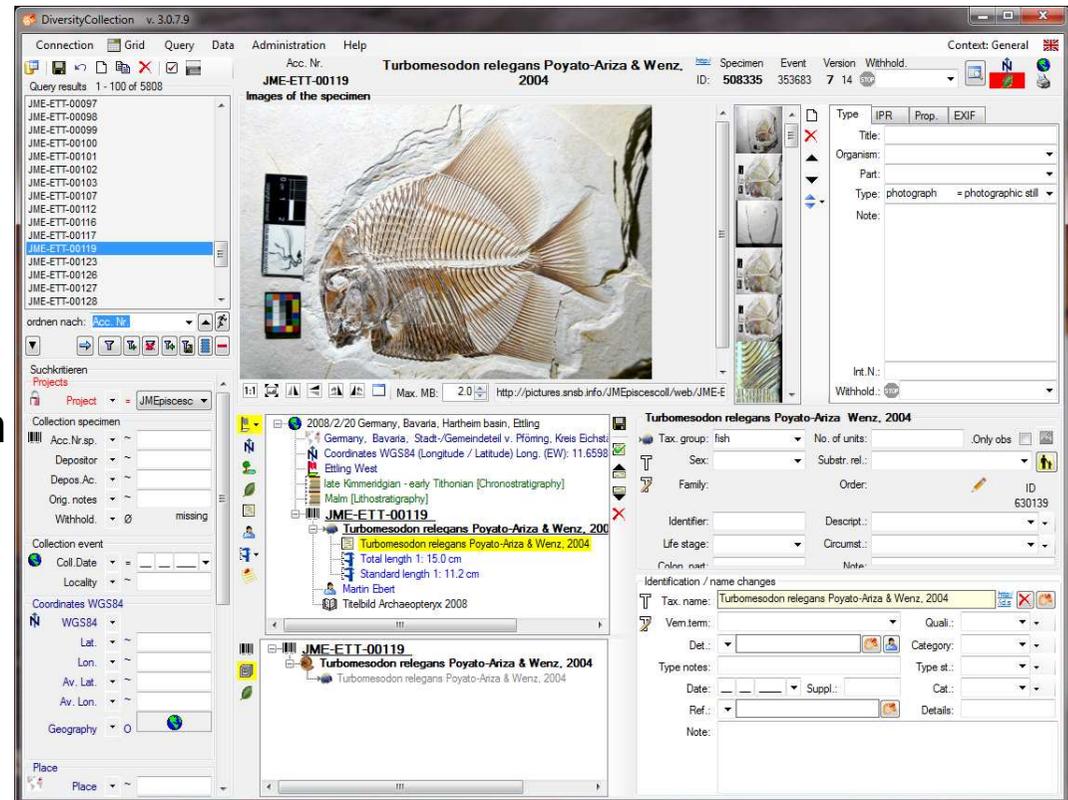
Diversity Workbench – Schnittstellen zum Datenmanagement

The screenshot displays the Diversity Workbench v. 3.0.0.3 interface, which is used for managing biological specimen data and taxonomic information. The interface is divided into several main sections:

- Top Panel:** Shows specimen details for *Ceratotherium simum* (Burchell, 1817) with specimen ID 178065 and event ID 20971.
- Left Panel:** A tree view of displayed fields and a table of specimen records. The table includes columns for Accession number, Collection year, Country, and Locality. The record for SAPM-MA-00136 is highlighted.
- Center Panel:** A hierarchical tree view of scientific terms, with 'Indusium' selected under the 'Indusium' term.
- Right Panel:** A detailed view of an agent, 'Hertel, Hannes, Prof. Dr.', including fields for Title, Given name, Postfix, Prefix, Inherited name, Gender, and Role.
- Bottom Panel:** A detailed taxonomic view for *Biatora sylvana* Korb. It includes fields for Taxonomic name, Species epithet, Rank, Nomenclature, and Taxonomic reference. A 'Synonymy overview' section lists various synonyms and their references, such as *Lecania hyalina* (Fr.) R. Sant.

DiversityCollection

- Management von Beobachtungs- und Sammlungsdaten
 - Ereignisse, Expeditionen
 - Beobachtungs- und Sammlungsobjekte
 - Experimente und Analysen
 - Administration von Objekten (Transfer, Inventarisierung)
 - Präparation und Lagerung von Objekten
 - Verwaltung von Multimedia-objekten
- Druckoptionen: Reporte, Etiketten
- Erzeugung von Verbreitungskarten



Portale mit DWB Daten, dynamischer Datenfluss

Access provided by National Botany Collection Munich
Login

BiNHum
The biodiversity portal of the Humboldt-Ring

The **BiNHum-Portal** is a joint Humboldt-Ring project, for querying the biodiversity data of different institutions.

Results filtered by
 Institution: M
 Country: Afghanistan
 Remove all filters.

Additional Filter
Scientific name
 astragalus (90)
 milkvetches (90)
 milkvetch (90)
Genus
 Astragalus (90)
 Cousinia (34)
 Acantholimon (20)
Country
 Afghanistan (332)
Type status
 isotype (93)
 not a type (83)
 holotype (72)
Collector
 Podlech, D. (138)
 Rechinger, K.H. (70)
 Griffich, W. (33)
Institution
 M (332)
Collection
 BSMplantscoll (287)

Ambrosia artemisiifolia
Beifußblättriges Traubenkraut
 167 Angaben aus 92 Quadranten, davon: 144 Qua
 0 1/4-Qu
 23 1/16-

FLORA VON BAYERN

»Entdecken und Bestimmen
 »Forum »Quiz »Veranstaltungen

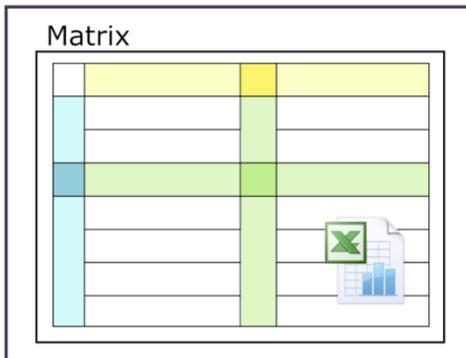
»Infos für Experten
 »Daten »Erfassung »Dokumente

Chamaecytisus ratiobonensis (Schaeffer) Rothm.

WWF Deutschland Datenschutz Über die Flora von Bayern Kontakt Impressum

Datenmanagement

Matrixdaten → DiversityDescriptions



Alternative import formats:
DELTA and SDD

Triples:

- > item-descriptor-state
- > item-character-state
- > entity-attribute-value
- > element-property-value

I_ID	Item	D_ID	Descriptor	V_ID	Value

I_ID	D_ID	V_ID

DiversityDescriptions, Database: DiversityDescriptions3_0_6_Erythroneura v. 3.0.0.7

Connection Edit Query Data Administration Help

Erythroneura aclys McAtee Project: Erythroneura Language: en

Suchergebnisse 1 - 54

- Erythroneura aclys McAtee
- Erythroneura acuticephala Robinson
- Erythroneura amanda McAtee
- Erythroneura ancora Beamer
- Erythroneura anfracta Beamer
- Erythroneura aza Robinson
- Erythroneura bakeri Dmitriev & Dietric
- Erythroneura beameri Robinson
- Erythroneura bidens McAtee
- Erythroneura bistrata McAtee
- Erythroneura browni Dmitriev & Dietri
- Erythroneura caetra McAtee
- Erythroneura calycula McAtee
- Erythroneura cancellata McAtee
- Erythroneura carinata Dmitriev & Diet
- Erythroneura coloradensis Gillette

ordnen nach: Description

Suchkriterien

Description

Title ~

Project Erythroneura

Descriptor

Categoric. =

Quantitati. =

Text =

Data status = +

Scope

Taxon =

Geography =

Specimen =

Observati. =

Reference =

Other =

Description: Erythroneura aclys McAtee DB key: 868

Main attributes Descriptor view Continuous view Resource links

ID	Type	!	Descriptor name
1	categorical	•	Ground color of dorsum
2	categorical	•	Coloration of vertex
3	categorical	•	Coloration of vertex midline
4	categorical	•	Anteclypeus coloration
5	categorical	•	Pronotum color pattern
6	categorical	•	Color pattern of mesonotum
7	categorical	•	Coloration of thoracic venter
8	categorical	•	Presence of crossbands on forewings
9	categorical	•	Presence of oblique pattern on forewings
10	categorical	•	Presence of a brown spot in forewing inner apical c
11	categorical	•	Presence of distal spot in forewing apical cell II
12	categorical	•	Clavus color pattern
13	categorical	•	Length of forewing outer apical cell
14	categorical	•	Length of 2S abdominal apodemes (Males)
15	categorical	•	Length of aedeagus preatrium (Males)
16	categorical	•	Dorsal apodeme of aedeagus in ventral view (Males)
17	categorical	•	Presence of teeth in distal part of aedeagal shaft (M
18	categorical	•	Width of aedeagal shaft in lateral view (Males)
19	categorical	•	Position and length of aedeagus ventral processes (M
20	categorical	•	Position and length of aedeagus distal processes (M...
21	categorical	•	Shape of pygofer dorsal appendages (Males)
22	categorical	•	Shape of pygofer lobe (Males)
23	categorical	•	Apex of aedeagus in ventral view (Males)
24	categorical	•	Apical vestiture of aedeagus (Males)

x	ID	State	Modifier	Frequency	Notes
<input type="checkbox"/>	1	entirely pale			
<input type="checkbox"/>	2	pale, with dark late...			
<input checked="" type="checkbox"/>	3	entirely dark			
<input type="checkbox"/>	4	pale, with dark bro...			

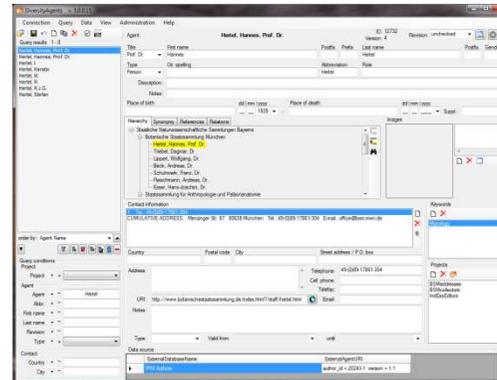
Media view

<http://ctap.inhs.uuuc.edu/dmitriev/images/aclys1.gif>

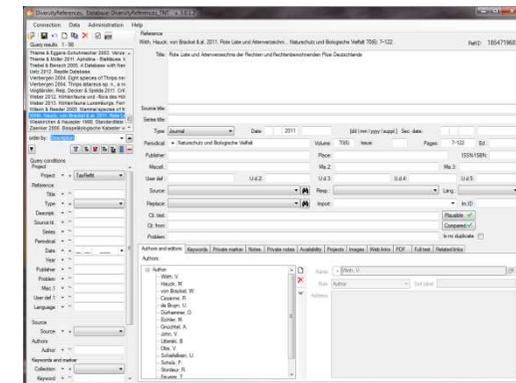
Edit description

Terminologien, Referenzen, Vokabularien.....

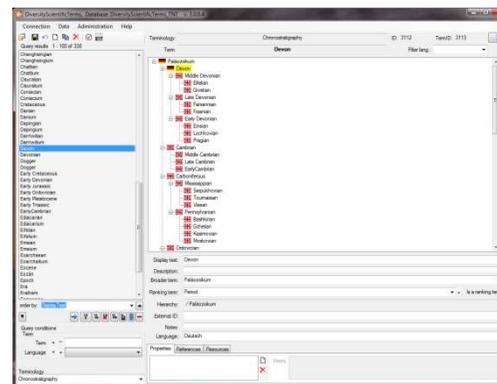
DiversityAgents
Verwaltung von Personen und Organisationen



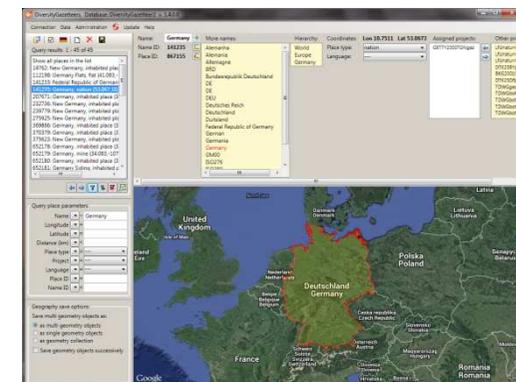
DiversityReferences
Verwaltung von Literaturreferenzen und Literaturdokumenten



DiversityScientific Terms
Management von Ontologien, Terminologien

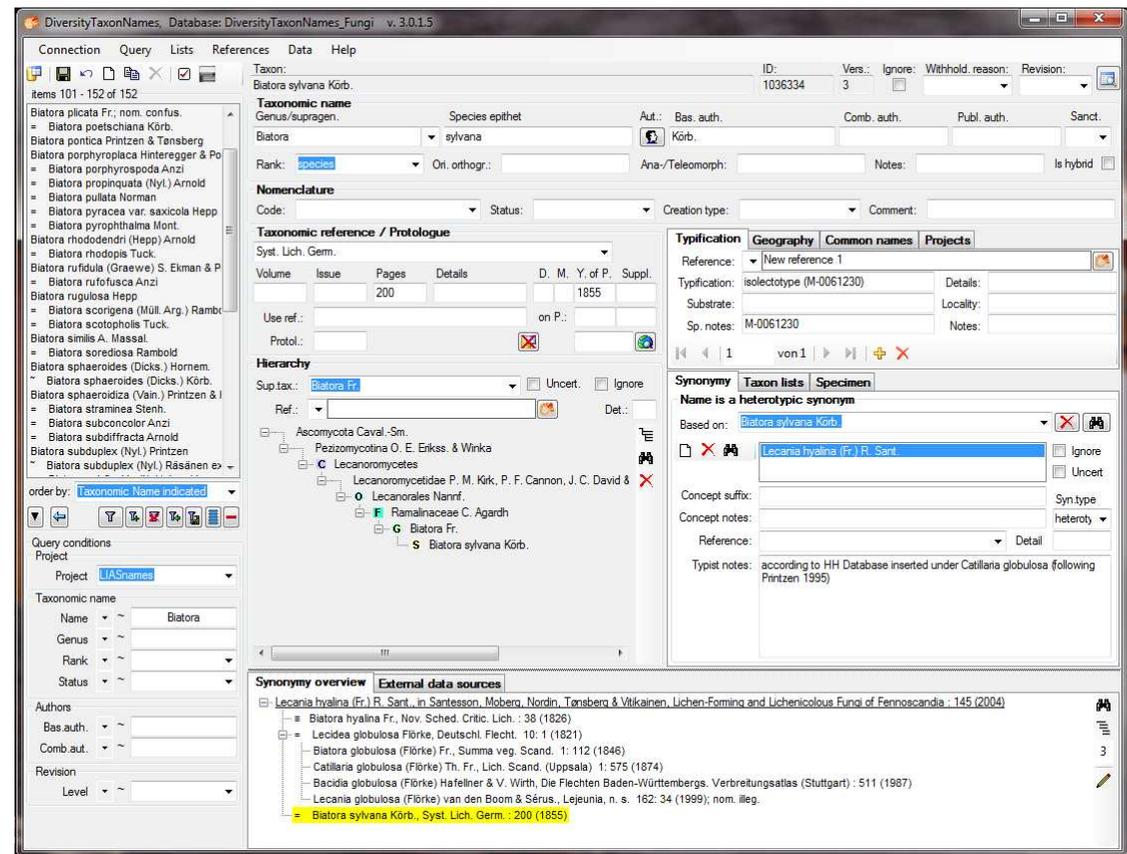


DiversityGazetteers
Verwaltung geographischer Namensbestände, oft mit GIS Information und Hierarchien



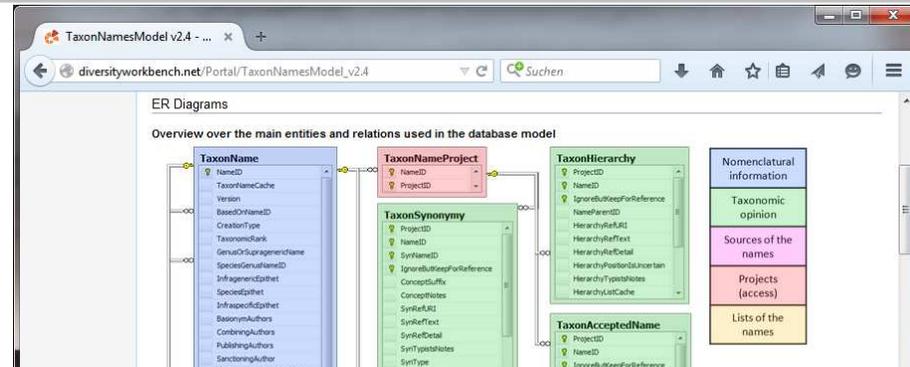
DiversityTaxonNames

- Management von taxonomischen Namen, verknüpfter Information
- Management von Synonymen, akzeptierten Namen, Klassifikationen, Typifizierung and Volksnamen
- Erstellung von Taxonreferenzlisten, Checklisten mit z. B. geographischen, naturräumlichen oder Naturschutzkategorien



DWB – DiversityTaxonNames

- ER-Modell publiziert
- Eine Reihe Installationen am SNSB IT-Zentrum: intern und auf TNT Server „DWB Cloud“ stellen Inhalte bereit
- Verschiedene maschinen- und menschenlesbare Webschnittstellen greifen darauf zu



Connection Query Lists References Data Help

Taxon: *Biatora sylvana* Körb. ID: 1036334 Vers.: 3 Ignore: Withhold_reason: Revision:

Genus/supragen. *Biatora* Species epithet *sylvana* Aut.: Körb. Bas. auth. Comb. auth. Publ. auth. Sanct.

Rank: **species** On. orthogr.: Ana./Teleomorph: Notes: Is hybrid

Nomenclature
Code: Status: Creation type: Comment:

Taxonomic reference / Protologue
Syst. Lich. Germ. Volume 200 Issue 1855 D. M. Y. of P. Suppl.

Hierarchy
Sup tax.: *Biatora* Fr. Ref.: Det.:
Acomycota Caval.-Sm.
Phaeozymycotina O. E. Erikss. & Winka
Lecanomorales
Lecanorales Nannf.
Ramalinales C. Agardh
Biatora Fr.
Biatora sylvana Körb.

Typification
Reference: New reference 1
Typification: islectotype (M-0061230) Details:
Substrate: Sp. notes: M-0061230 Locality: Notes:

Synonymy
Name is a heterotypic synonym
Based on: *Biatora sylvana* Körb.
Lecania hyalina (Fr.) R. Sant. Ignore
Lecania hyalina (Fr.) R. Sant. Uncert
Concept suffix: Concept notes: Reference: Typist notes: according to HH Database inserted under Catillaria globulosa following Printzen 1995

Synonymy overview External data sources
Lecania hyalina (Fr.) R. Sant., in Santesson, Moberg, Nordin, Tensberg & Vitikainen, Lichen-Fomina und Lichenicolous Fungi of Fennoscandia : 145 (2004)
Biatora hyalina Fr., Nov. Sched. Critic. Lich. : 38 (1826)
Lecades globulosa Flörke, Deutsch. Flecht. 10 : 1 (1821)
Biatora globulosa (Flörke) Fr., Summa veg. Scand. 1 : 112 (1846)
Catillaria globulosa (Flörke) Th. Fr., Lich. Scand. (Upsala) 1 : 575 (1874)
Bacidia globulosa (Flörke) Hafellner & V. Wirth, Die Flechten Baden-Württembergs. Verbreitungsatlas (Stuttgart) : 511 (1987)
Lecania globulosa (Flörke) van den Boom & Sérus., Lejeunia, n. s. 182 : 34 (1999); nom. illeg.
Biatora sylvana Körb., Syst. Lich. Germ. : 206 (1855)

Portale und Webdienste – DiversityTaxonNames

The screenshot displays the LIAS names web service interface. The browser address bar shows 'liasnames.lias.net'. The page header includes 'A Database with Names of Lichens, Lichenicolous Fungi and Non-Lichenized Ascomycetes' and navigation links for 'About' and 'Cooperating Websites'. The main content area is divided into a left sidebar and a main search result section.

Search Result

Entered Name	<i>Lecanora albescens</i> (Hoffm.) Branth & Rostr.
Name ID	1009252
Accepted Name	Lecanora albescens
Synonyms	≡ <i>Psora albescens</i> <i>Placodium albes</i> = <i>Lecanora galact</i>

Regionalised and Domain-specific Taxon Lists

The DWB REST Webservice for Taxon Lists is part of a Diversity Workbench (DWB) services network. It is delivering basic information on taxon names in use, synonyms, classification and German vernacular names of a number of groups of animals, fungi and plants.

The current focus is on domain-specific lists (checklists, taxon reference lists, red lists) from Germany under active curation by experts on taxonomy or floristics and faunistics. Each regionalised and domain-specific taxon list has its own history and objectives, is managed completely separately and has its own hierarchical classification. The DiversityTaxonNames (DTN) data resources accessed by the REST API may include additional taxon-related data useful, e. g., for regional nature conservation agencies and environmental projects. This information might be mobilised in a next step.

For more information please refer to DTN_Taxon_Lists_Services

Regionalisierte und domän-spezifische Taxonlisten

Der DWB REST Webservice for Taxon Lists ist Teil eines Netzwerkes aus Diversity Workbench (DWB) Diensten. Er liefert Basisinformation zu anerkannten Taxonnamen, Synonymen, Klassifikationen und deutsche Volksnamen für eine Anzahl von Tier-, Pilz- und Pflanzengruppen.

LIAS GSD – DiversityTaxonNames

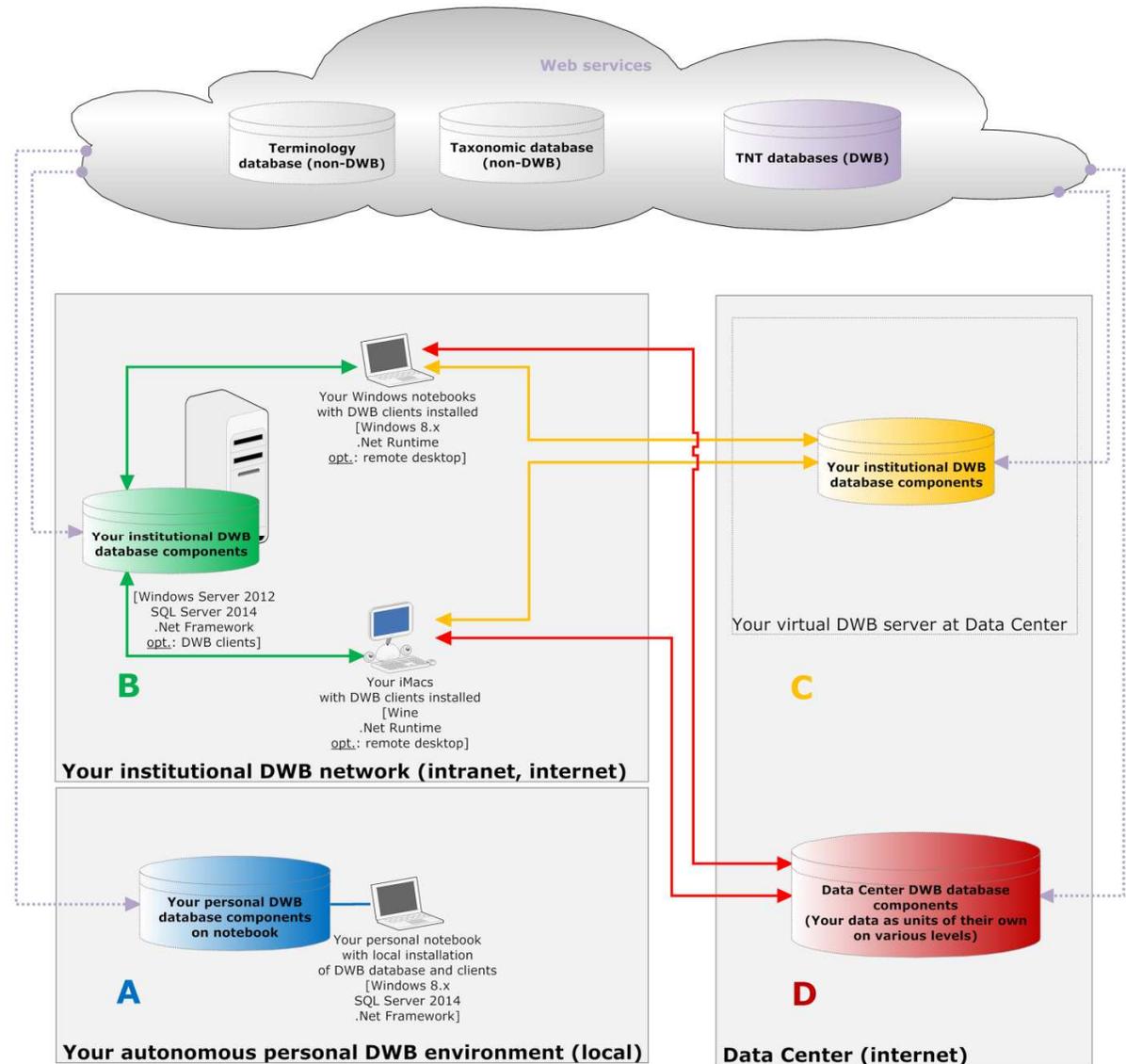
The screenshot shows the 'Catalogue of Life' website interface. At the top, it says 'Species 2000' and 'Catalogue of Life: 18th March 2015 indexing the world's known species'. There are navigation links for various languages: English, French, Spanish, Chinese, Russian, Portuguese, Dutch, German (selected), Polish, Lithuanian, Thai, Vietnamese. The main content area is titled 'Details zur Datenbank' and features the LIAS logo. A 'Datenbank Qualitätskriterien' box shows: Umfang: Global, Vollständigkeit: 65%, and Vertrauenswürdigkeit der Checkliste: ★★★★★. Below this is a table of metadata:

Voller Name:	A Global Information System for Lichenized and Non-Lichenized Ascomycetes
Namensabkürzung:	LIAS
Version:	Jan 2013
Datum der Veröffentlichung:	2013-01-08
Autoren/Editoren:	Rambold G. (lead editor); for detailed information see http://liaslight.lias.net/About/Impressum.html and http://liasnames.lias.net/About/Impressum.html
Taxonomische Abdeckung:	Eurotiomycetes - Pyrenulales, Verrucariales, Mycocaliciales Dothideomycetes - Arthopyrenia, Eopyrenula, Lichenothelia, Mycoporum, Leptorhaphis, Naetrocymbe, Tomasellia, Peridiothelia, Pseudopyrenula, Cyrtidula, Cystocoleus, Kirschsteiniothelia, Mycoglaena, Racodium Leotiomycetes - Thelocarpaceae, Vezdaeaceae Sordariomycetes - Sarcopyrenia
Englischer Name für diese Gruppe:	Lichens
Anzahl von Arten:	8,949
Anzahl von innerartlichen Taxa:	196
Anzahl von Synonymen:	7,283
Anzahl von Vernakularnamen:	1,829
Gesamtzahl von Namen:	18,257
Zusammenfassung:	LIAS is a multi-authored information system for the collection and distribution of descriptive and other biodiversity data on lichens and selected groups of non-lichenized ascomycetes. LIAS is a long-term designed project with the final goal to comprise global data – estimates for the total number of lichen species worldwide range between 13.500 and 20.000. As GSD for Lichens LIAS is delivering combined data from LIAS light at http://liaslight.lias.net and LIAS names at http://liasnames.lias.net .
Organisation:	LIAS, Botanische Staatssammlung München, Germany
Website:	http://www.lias.net

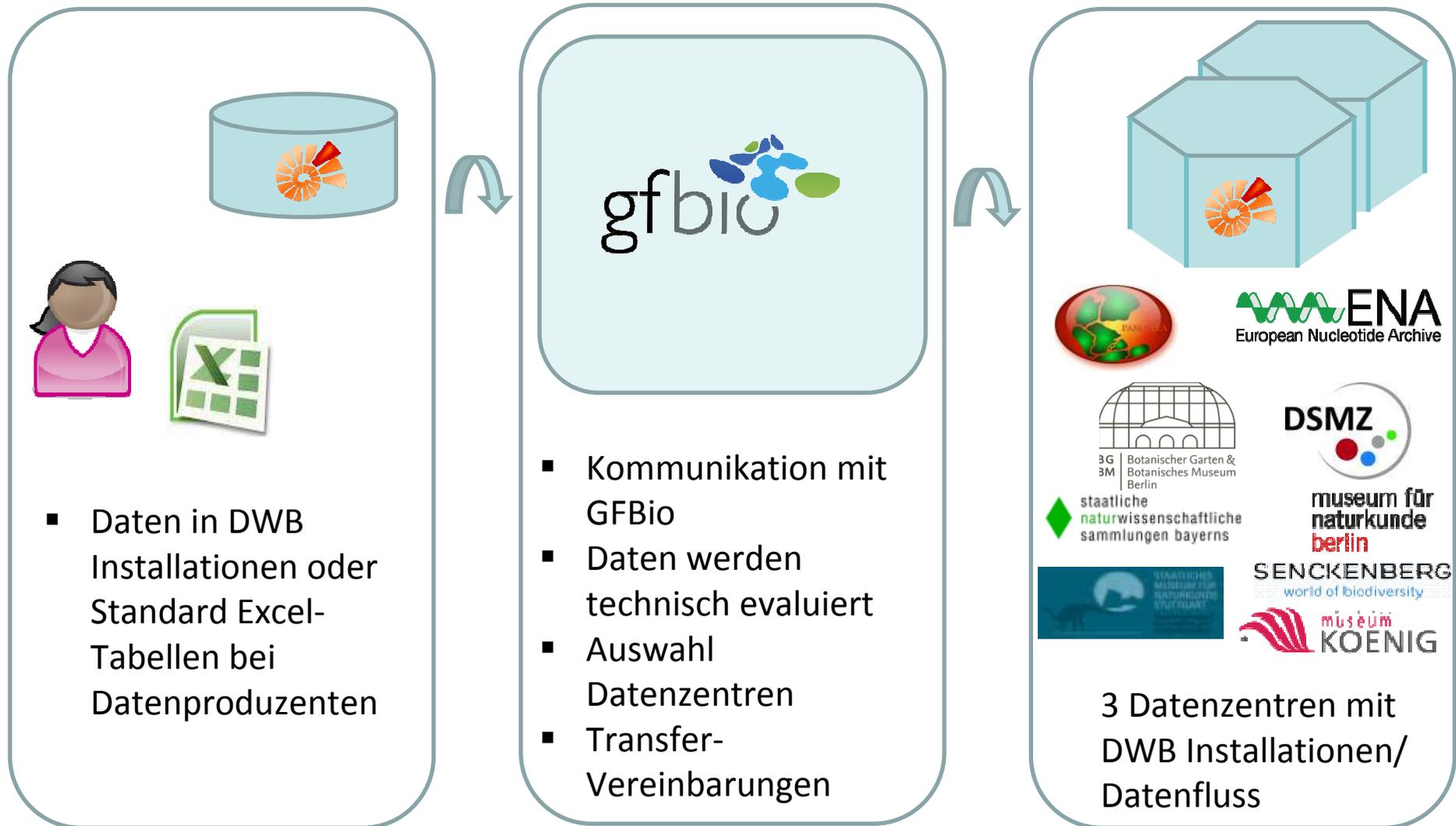
At the bottom of the page, there is a footer: 'Annual Checklist Interface v1.8.1 r1397 Entwickelt von ETI Naturalis. Bitte beachten sie - diese Seite benutzt cookies. Wenn sie weiterhin diese Seite nutzen, nehmen wir an, dass Sie der Verwendung zustimmen.'

DWB – Alternativen der Installation

- Interoperabilität und Flexibilität
- TNT Cloud/ Server
- Installations-Alternativen A-D
 - Web-basiert
 - Stand-alone (A)



Einsatz von DWB in GFBio



Installation: Mobile Intranet Lösung

- Als Arbeitsumgebung zum Einsatz in Feldstationen ohne Internetzugang
- Als IT Trainingsumgebung für DWB Workshops an Orten mit unsicherer Stromversorgung

mehr unter http://diversityworkbench.net/Portal/Mobile_intranet_solution_for_DWB



Danke

an alle Mitarbeiter, Interessenten und Anwender



www.snsb.info/People.html

snsb it center

HOME ABOUT US PEOPLE SERVICES WORKSHOPS

People

Dr. Dagmar Triebel	Head
Wolfgang Ahlmer*	Data Scientist and Research Assistant
Dr. Konstanze Bensch*	Research Scientist
Ina Leininger*	Data Scientist and Research Assistant
Anton Link*	Software Developer
Dieter Neubacher	System Administrator and Software Developer
Dr. Andreas Plank*	Research Scientist and Software Developer
Wolfgang Reichert*	Software Developer
Georg Rollinger*	Software Developer
Marcel Ruff*	Data Scientist and Research Assistant
Veronica Sanz*	Data Scientist and Research Assistant
Dr. Stefan Seifert*	System Administrator and Software Developer
Tanja Weibullat*	Data Scientist and Research Assistant
Dr. Markus Weiss	Software Developer

Former staff

Jan Ingenhaag	Research Assistant, Web Application Developer
Manfred Knick	System Administrator and Software Developer
Asif Rashid Lakehsar	Software Developer
Wiltrud Spiesberger	Research Assistant, Web Application Developer

and associated

[Diversity Workbench](#) Co-workers

* temporary employment

staatliche naturwissenschaftliche sammlungen bayerns

www.snsb.info/Services.html

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
- Data Management Workflows and Web Access for Collections and Occurrence Data
 - M
 - STAATSSAMMLUNG FÜR ANTHROPOLOGIE UND PALÄONTOLOGIE MUC
 - SAPM
 - IDES
 - BINHum
 - FLORA VON BAYERN
 - GRIF DE FORU & LICHENS
 - GRIF DE INVETERATES
 - GRIF DE VIT/DE
 - INSTITUT HERBARIUM UNIVERSITÄT DUISBURG ESSEN
- Species Information Systems
 - deEMY
 - LIAS
 - MELNET
 - Myxomycota Germany
- Biodiversity Information – Platforms and Standards
 - mod-co
 - THE MYCOLOGY .NET
 - MYCO PHYLOGENY
 - THE PHYCOLOGY .NET
 - FLORA VON BAYERN
- Literature Catalogues and Bibliographies
 - DALI
 - IndExs
 - IndexMaps
 - MyxLit
- Data Management Services and primary IT support for Major Research Infrastructure Projects and Data Portals
 - BioWikifarm
 - Catalogue of Life
 - GBIF
 - GBOL
 - gfbio
 - IAL
 - STOR

