LIB - Leibniz-Institut zur Analyse des Biodiversitätswandels

About the Institution

The LIB – Leibniz Institute for the Analysis of Biodiversity Change is an amalgamation of the Zoological Research Museum Alexander Koenig (ZFMK), Bonn, and the Centre of Natural History of the University of Hamburg. It is dedicated to research into biological diversity and how it changes, the findings from which have illuminating relevance for society as a whole.

The LIB comprises more than 16 million collection objects, primarily from the field of zoology, but also from geology-palaeontology and mineralogy. Using state-of-the-art technologies, researchers study the changes in biodiversity based on this valuable, historical object database in order to answer relevant questions of our society for the future. As an integrated research museum, the LIB promotes innovative research. Documentation, indexing, and the expansion of the collections are important goals of this research infrastructure.

The results of research and the collections are made accessible to the public with permanent and temporary exhibitions and using other methods for public education.
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About the Data Center

The Leibniz Institute for the Analysis of Biodiversity Change is a foundation under public law. The Biodiversity Data Center as part of the LIB is aimed at hosting, archiving, publishing and distributing data from biodiversity research and zoological collections.

The Biodiversity Data Center handles and curates data on:

- The specimens of the institutes collection, including provenance, distribution, habitat, and taxonomic data.
- Observations, recordings and measurements from field research, monitoring and ecological inventories.
- Morphological measurements, descriptions on specimens, as well as
- Genetic barcode libraries, and
- Genetic and molecular research data associated with specimens or environmental samples.

Contact LIB at NFDI4Biodiversity

Data Center Profile

Name	LIB – Leibniz Institute for the Analysis of Biodiversity Change
URL	https://leibniz-lib.de/en

Description	The Biodiversity Informatics section at LIB administrates and manages the Biodiversity Data Center together with the LIB IT Section. The section provides dataflows (e.g. Publication of Type 1 Data), tools and services for LIB's research collections with a worldwide coverage. One of the collections is the Biobank that offers a specialized storage facility for the long-term storage of Tissue and DNA samples and is connected to the Global Genome Biodiversity Network (GGBN). All data are stored in the collection management framework *Diversity Workbench* including field- and collection data, as well as sequence and trace data from the German Barcode of Life project (GBOL). The Morphological Description and Multimedia Database *Morph·D·Base* is developed in the section and housed at LIB and is used for storing, archiving and dissemination of scientific multimedia content. Data are published using the ABCD standard and the BioCASe Provider Software (BioCASe at LIB). **Scientific data curation services (incl. taxonomic services)** The taxonomic expertise and interest is that of the LIB. The LIB is one of the eight natural history research museums of the Leibniz Association. It unites genomic research with modern taxonomic and scientific collection based research. The collections mirror the taxonomic interest. See Collections at LIB Museum Koenig, Bonn and Collections at LIB Museum der Natur, Hamburg. Special expertise in various groups of terrestrial animals exists. It is a precondition to successfully serve the GBIF-D Node Vertebrates. Located at the LIB is Morph·D·Base - The Morphological Description Database. *Morph·D·Base* is a database driven online platform for scientists for sharing their data privately and with the public. It allows the long-term storage of various kinds of media (e.g., images. 3d-stacks of images. movies, etc.). *Morph·D·Base* functions as an archive and publication platform for media from various research projects (e.g. the German Barcode of Life Project and the Freshwater Identification for Europe, FREDIE) as well as the collections within the LIB.
Data domains (scope)	Our first preference is to manage data of the collection domain. Apart from this we are specialized to manage, store and archive observation/ monitoring data.
Target group	Researchers from national and international research institutions with the focus on species based research on biodiversity change. Like LIB researchers they should have a focus on epicontinental phylogenetics, speciation and biogeography of terrestrial vertebrates and insects taxonomy and evolution, collection based research, remote sensing of habitat change, biodiversity monitoring, and molecular based research including computational genomics.

Service Description

Data archiving for research projects focusing on zoological (including observation/ monitoring data), mineralogical/geological and palaeontological collection data according to our profile description (LIB – extended profile).

Type 1a	Collection data, together with the deposit of physical objects, referenced multimedia objects.
Type 1b	Observation and occurrence data, species monitoring projects, referenced multimedia objects.
Type 2	Taxon reference list data and checklist data.
Type 3	Tissue/DNA biobank storage, referenced multimedia objects (e.g. sound data, 3d image stacks/volume data)

IT services

Data submission and accession

- Mapping services for *DiversityCollection* Import

Data integration and management

- *Diversity Workbench* Metadata databases and repositories; remote data management by researchers possible
- *Morph·D·Base* multimedia data repository

Data backup and archiving

- All workflows established include backup and archiving (see Dataflow for Preservation of Digital Information).

Data publication

- BioCASe Provider Software (Local Query Tool of BPS at LIB)
- Metadata on Species occurrences: GBIF Data publisher
- Media: Morph·D·Base

User services

Service Levels	Data Set x	Data Package x	Data management x	Research Objects x
Data Formats				

Data Submission Formats	**Data**	(a) Export files from external installations of DiversityCollection, DiversityTaxonNames (b) any spreadsheets (CSV, excel-files), structured according to existing DWB import schemes (seeLIB GitHub, SMNS GitHub and SNSB GitHub) (c) spreadsheets and databases appropriate to create new DWB import schemes (see also mandatory and recommended Data and Metadata at LIB) Image formats have to be agreed for submission. Example templates for data submission can be found in the GFBio collection of recommended data submission templates
	Metadata	EML, ABCD, DarwinCore, GGBN, SDD, DublinCore
Data Accessibility	**Public access points**	GFBio, BioCASe Data Access Services at LIB, GBIF, DTN Taxon List Services and others
	Standardised exchange formats	XML-files in ABCD, DarwinCore, EML standard; Web services of the DWB platform
	Data formats	Text, CSV, XML (see List of preferred formats)
	Long-term availability	minimum guaranteed time period of 10 years
Data Publication Services	**Data Citation**	Yes (direct URLs to the published datasets, via DOIs and additionally with a citation following the GFBio citation pattern; see Citation)
	DOI	*via ZB MED/DataCite publication* *via GBIF publication*
Archiving (RAW-data ingest, data, media)		Archiving is done for all submitted data and metadata according to OAIS. (for details see Dataflow for Preservation of Digital Information

Licenses / Terms of Use	Metadata	All metadata are published free of restrictions, under the terms of the Creative Commons CC0.
	Data	All data are published with a Creative Commons License, we recommend using a free license such as CC BY.
		So all accessible information made available through the LIB Biodiversity Data Center's publication tools may be used free of charge for private, educational, research, or other non-commercial purposes, provided that the source and copyright holder are named. Any commercial use requires the consent of the copyright holder.
		For more information see our Terms of Use
Documentation		see LIB Biodiversity Data Centerand GFBio Public Wiki
Computing center, external service provider **name of the associated computing center(s), (commercial) service provider(s) and services provided**		
Backup		regularly (for details see Datapolicy at LIB)

Your contact persons at LIB

Data curator

- Birgit Rach

Technical contact

- Peter Grobe

NFDI contact persons

- Peter Grobe, Birgit Rach

Contact LIB at NFDI4Biodiversity

Do you have questions, feedback or need help?

Contact our Helpdesk for direct support.