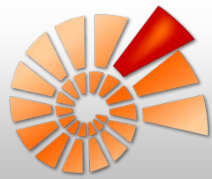
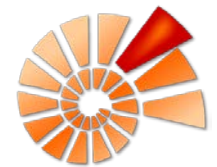
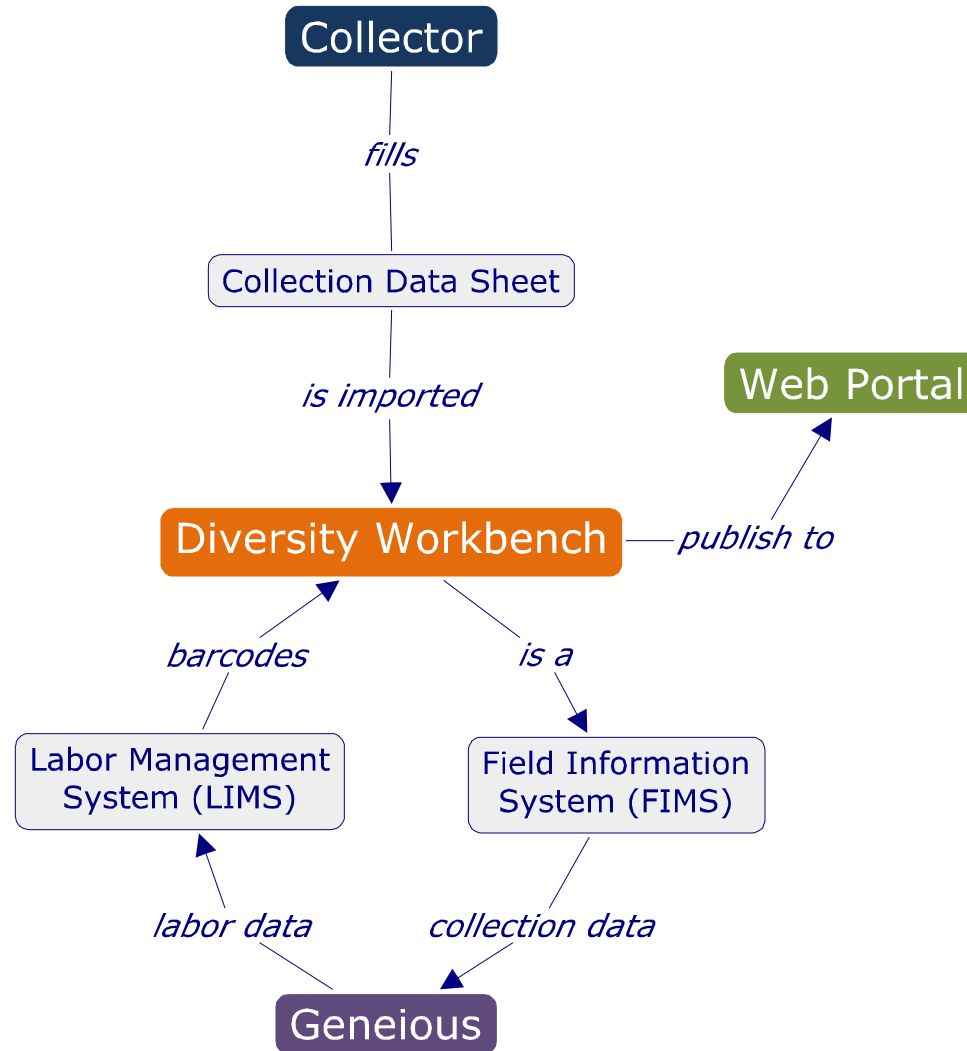
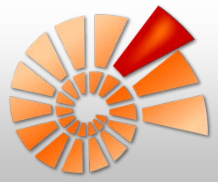


German Barcode of Life (GBOL): DiversityCollection zum Management von GBOL-DNA-Proben

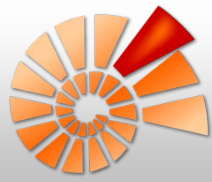


Datenfluss – ein Überblick





Systeme zur Datenverwaltung

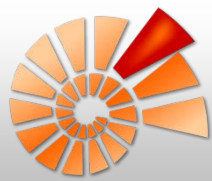


Zusammenführen von Experten



Das GBOL Web Portal **bolgermany.de**

The screenshot shows the homepage of the GBOL web portal. At the top right, there are links for 'Impressum | Kontakt | Newsletter'. The main header features the GBOL logo and the tagline 'German Barcode of Life'. Below this is a large image of insect larvae with a DNA double helix overlaid. A text box above the image reads 'Deutschlands Fauna und Flora in einer einzigartigen genetischen Bibliothek.' A navigation bar contains the following items: 'Das Projekt', 'DNA-Barcoding', 'Das Team', 'Mitmachen!', 'News & Publikationen', 'Links', 'Kontakt', 'Experten-Bereich', and 'Anmelden'. Below the navigation bar is a banner with the text 'Biodiversität – jede Art zählt!' and 'Was wäre, wenn wir jedes Tier, jeden Pilz und jede Pflanze exakt und schnell identifizieren könnten?'. The banner includes images of a plant, a moth, mushrooms, and a fly, with a link 'Infos zum Projekt!'. Below the banner are three columns of content: 'Das Projekt' (Das Projekt "GBOL" widmet sich der Inventarisierung und genetischen Charakterisierung der Tiere, Pflanzen und Pilze), 'DNA Barcoding' (Kurze Genabschnitte - sogenannte DNA-Barcodes - sind für jede Art einzigartig. Sie ermöglichen die Erfassung der Artenvielfalt.), and 'Das Team' (Renommierte Museen und Forschungsinstitutionen aus ganz Deutschland bilden das GBOL-Team und koordinieren die). To the right of these columns is a 'Machen Sie mit...' section with three buttons: 'Registrieren!' (Registrieren Sie sich noch heute als Sammler...), 'Anmelden' (Sie sind schon registriert? Loggen Sie sich ein...), and 'Newsletter' (Bleiben Sie stets aktuell...).



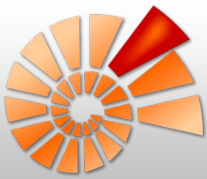
Zusammenführen von Experten



Das GBOL Web Portal **bolgermany.de**

- Registrierung taxonomischer Experten
- Nutzerverwaltung
- Bestellung von Material
- Hochladen und Eingeben von Felddaten
- Neu: Status wird angezeigt



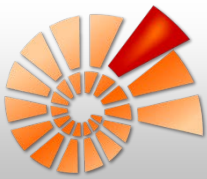


Feld- und Sammlungdaten- Management



Diversity Workbench (DWB)

The screenshot displays the DiversityCollection software interface, version 3.0.3.0, with the database DiversityCollection_ZFMK. The main window shows a tree view of collection events and specimens. The selected specimen is *Phorticus simplicipes* Kerzhner, 1992, holotype, with accession number HET 2004/1. The specimen details include collection date (1988/4/23-25), altitude (1000-1050 m NN), and locality (Taplejung, Nepal). The collection event is identified as Nabidae 30. The interface also shows a list of query results on the left, a collection specimen form on the right, and a notes section with the original description: "344 Taplejung Distr., confluence of Kabeli Khola and Tada Khola, 1000-1050 m, mixed broad-leaved forest, 23-25. Apr. 88. Martens & Schawaller - Nepal-Expeditionen - Jochen Martens - Holotypus male - Phorticus - simplicipes sp.n. - Kerzhner det. 1990 -".

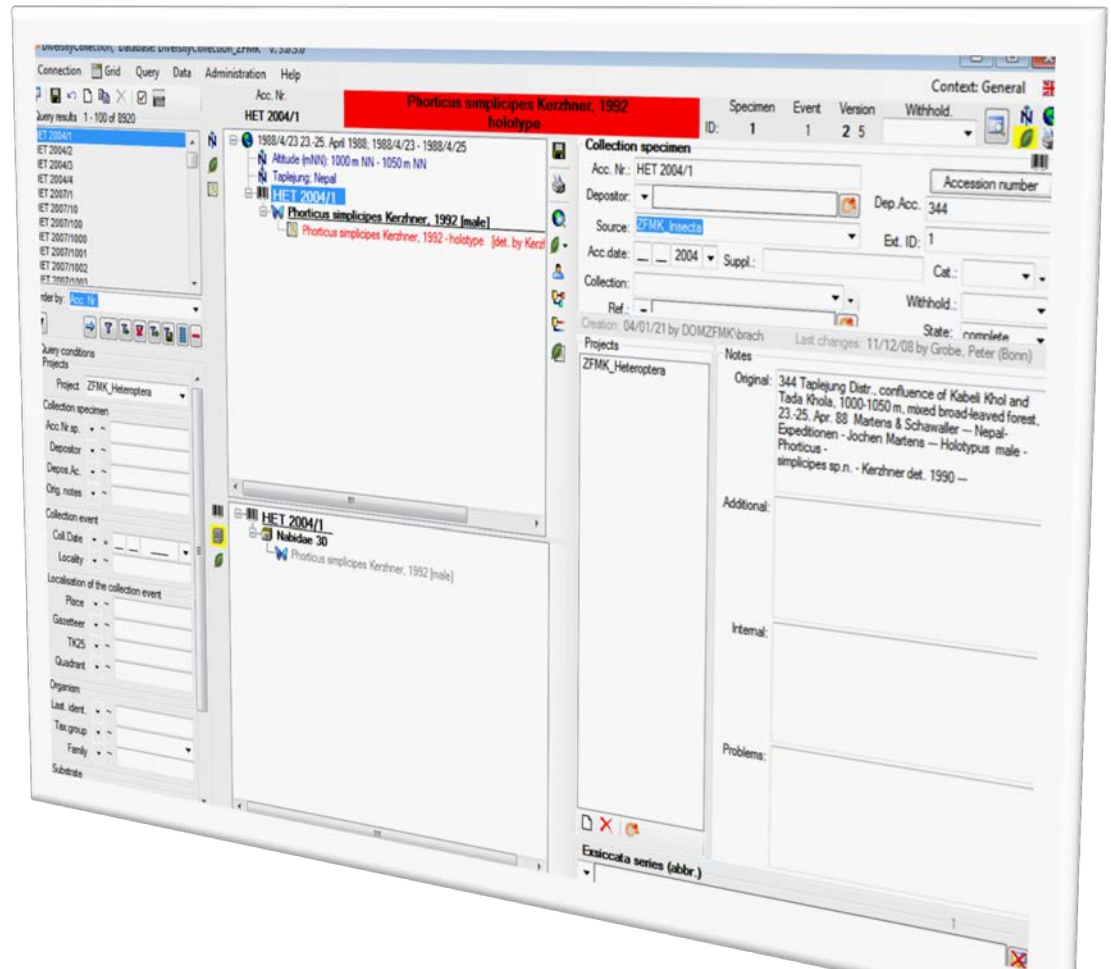


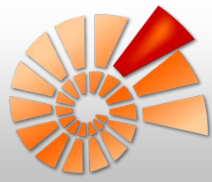
Feld- und Sammlungsdaten-Management



Diversity Workbench (DWB)

- Feld-Informations-Management-System (*FIMS*)
- Speicherung und Verwaltung aller Feld- und Sammlungsdaten





Labordaten-Management



Bioinformatics Software Platform Geneious

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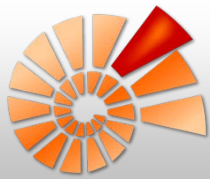
Superior visualization

Switch to a clear and bold graphical interface. Eliminate the need for command-line operations and stop battling with poorly designed software.

[Learn more](#)

gfp gene
gfp CDS
SV40 polyA signal

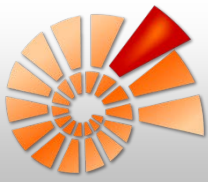
Phylogenetic tree showing relationships between various species including: Singprouse, Mea, Chicken, Galkater, Ostrich, Warbler, Sparrow, Catbird, Starling, Sea Turtle, Monkey, Ibis, Baboon, Orangutan, Gorilla, Chimpanzee, Human, Lemur.



Bioinformatics Software Platform Geneious



- Labor-Informationen-Management-System (*LIMS*)
- Alle Daten über
 - DNA-Extraktion
 - PCR
 - Rohsequenzen
 - DNA-Barcodes



Multimedia-Verwaltung



Morphological Description Database Morph·D·Base

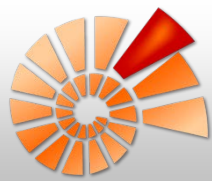
The screenshot shows the Morph-D-Base website interface. At the top, there is a navigation bar with tabs for 'Taxonomy', 'Browse Content', 'New/Edit Content', and 'Home'. Below this is a search bar with fields for 'Username' and 'Password', and buttons for 'Login' and 'Register'. The main content area is divided into several sections:

- Random Images:** A section displaying three small images of biological specimens.
- MDB Stats:** A section providing statistics: User: 128, Groups: 11, Specimen: 272, Publicly accessible: 104. It also includes a 'Media' section with Total: 500 and Publicly accessible: 178.
- News and updates:** A section with a date filter set to '1. Feb. 2013'. It contains two news items:
 - 2nd Annual Meeting BioSyst.EU 2013 Global systematics!** (dated 1. Feb. 2013): Morph-D-Base will be presented during the Software Bazar on Thursday, Feb. 21st 2013 at the 2nd Annual Meeting BioSyst.EU 2013 Global systematics! Link to meetings website.
 - Annual Meeting of the Gesellschaft für Biologische Systematik, February 23-25, 2012, at the ZFMK, Bonn, Germany** (dated 14. Feb. 2012): The matrix module of Morph-D-Base will be introduced in the Workshop "Morph-D-Base: Data Repository, Collaboration Platform, Image Annotator, and Character Matrix Module for Morphological Data" at the 13th annual meeting of the GFBS. The workshop is scheduled on Saturday, Feb. 25th, 8:30h, at "Museum school, main building 2. floor" at the Zoologisches Forschungsmuseum Alexander Koenig. The workshop will be divided into the following sections:
 - A brief introduction, which will give an overview of the interface and the general idea and motivation for the Morph-D-Base Project.
 - In a "hands on" section, the participants can use own material to upload and edit content into the database, annotate it, and share it with other participants.
 - In the last part, the matrix module will be introduced and used by the participants. Participants will learn how to build a morphological character matrix from scratch and how to link individual matrix cells to other contents from Morph-D-Base, thereby providing a detailed documentation of relevant data and metadata for each matrix cell.We will conclude with an outlook on future developments for Morph-D-Base. Link to meetings website.
- In the News:** A section with a date filter set to '29. Jun. 2011'. It contains several news items:
 - Kamp, T. van de; Vagovic, P.; Baumbach, T.; Riedel, A. (2011): A Biological Screw in a Beetle's Leg.** Science 333(6038):52-52. doi:10.1126/science.1204245. Direct Links: www.morphdbase.de?A_Riedel_20110523-M-3.1, www.morphdbase.de?A_Riedel_20110523-M-4.1
 - Vogt, L.; Grobe, P. (2010): Morph-D-Base - Eine online Datenbank für morphologische Daten und Metadaten.** GFBS Newsletter 24:29-34. Open access
 - Vogt, L.; Bartolomaeus, T.; Giribet, G. (2010): The linguistic problem of morphology: structure versus homology and the standardization of morphological data.** Cladistics 26(3):301-325.
 - Vogt, L. (2009): The future role of bio-ontologies for developing a general data standard in biology: chance and challenge for zoo-morphology.** Zoomorphology 128(3):201-217.
 - Vogt, L. (2008): Learning from Linnaeus: towards developing the foundation for a general structure concept for morphology.** Zootaxa 1950:123-152. Open access
 - Ziegler, A. (2008): Non-invasive imaging and 3D visualization techniques for the study of sea urchin internal anatomy.** Dissertation, Freie Universität Berlin. www.diss.fu-berlin.de/diss/receive/FUDISS_thesis_00000006510

Found a bug?

Morph-D-Base Ver. 3.0 Beta - © 2004-2011 The Morph-D-Base Project - info@morphdbase.de

Last updated: 17.02.2013



Morphological Description Database Morph·D·Base

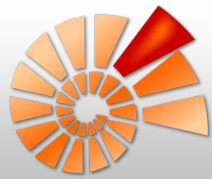
- Speicherung und Archivierung
- Alle Arten von Multimedia-Dateien
- Für GBOL:
 - Bilder von Sammlungsobjekten
 - Habitatansichten

The screenshot displays the Morph-D-Base website interface. At the top, there is a navigation bar with 'Start', 'Purpose of MDB', 'History of MDB', and 'Imprint & Copyright'. A login section on the right includes fields for 'Username' and 'Password', along with 'Login' and 'Register' buttons. The main content area is divided into several sections:

- Random Images:** A gallery of three small images, including a beetle and a green glowing object.
- MDB Stats:** A summary of database statistics:

User:	128	Media:	
Groups:	11	Total:	500
Specimens:		Publicly accessible:	178
Total:	272		
Publicly accessible:	104		
- News and updates:** A list of recent news items with dates and expandable text. The most recent item is dated 1. Feb. 2013 and mentions the '2nd Annual Meeting BioSyst.EU 2013 Global systematics!'. Other items are dated 14. Feb. 2012 and 29. Jun. 2011.
- In the News:** A list of recent publications with titles and authors, such as 'Kamp, T. van de; Vapovic, P.; Baumbach, T.; Riedel, A. (2011): A Biological Screw in a Beetle's Leg. Science 333(6038):52-52.'

At the bottom of the page, there are logos for 'Deutsche Forschungsgemeinschaft DFG', 'Museum Koenig', 'Universität Bonn', and 'hrz'. A footer at the very bottom contains the text 'Tanja Weibulat & Peter Grobe'.



Übersicht Datenmanagement

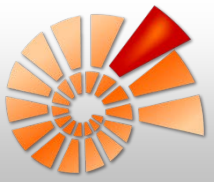


Species	Barcode	Accession	Collector	Year
...

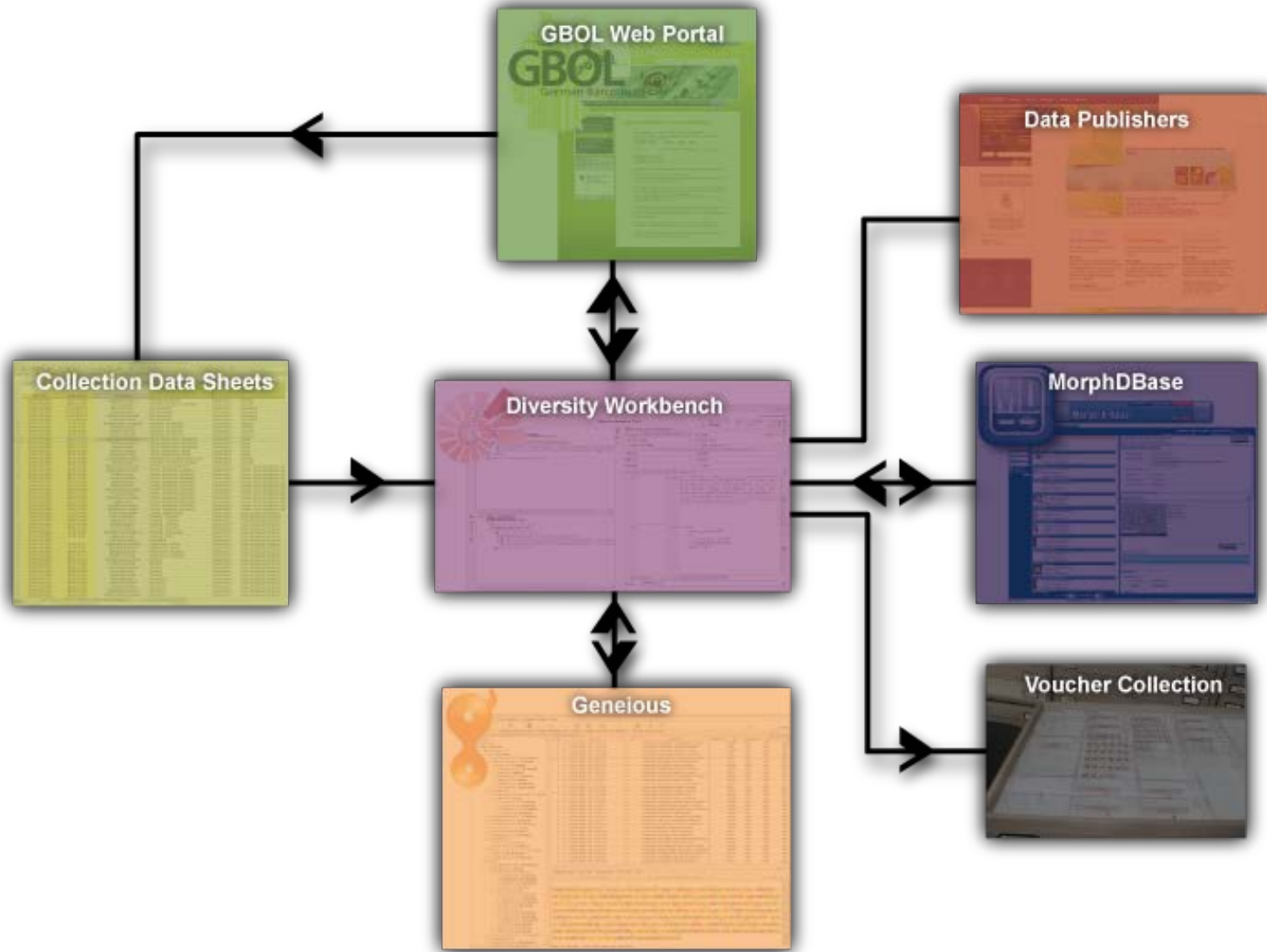


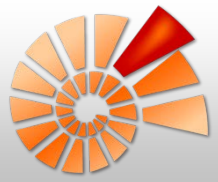
Species	Barcode	Accession	Collector	Year
...



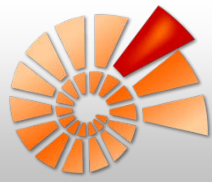


Übersicht Datenmanagement





Arbeitsablauf und Datenfluss



Materialbestellung



- GBOL-Experte bestellt Material
 - Art der Sammelröhrchen
 - Anzahl
 - Taxonomische Gruppe

Versandmaterial anfordern

Ihre Adresse

Herr Dr. Peter Grobe
Zoologisches Forschungsmuseum Alexander Koenig
Adenauer Allee 160
53113 Bonn
Deutschland

Bitte überprüfen Sie Ihre Adresse. Sollte sie fehlerhaft sein, korrigieren Sie bitte Ihre Daten in Ihrem Nutzerprofil.

Art der Sammelröhrchen *

2ml Röhrchen

Anzahl der gewünschten Sammelröhrchen *

95

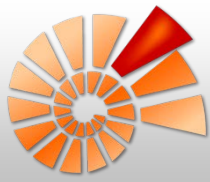
Bitte wählen Sie aus, wie viele Sammelröhrchen Sie benötigen. Geben Sie bitte immer nur Individuen einer einzigen Art in ein Gefäß; bei Tieren in 96% Ethanol (weitere Hinweise in den Sammelinfos).

Taxonomische Gruppe *

Arachnida, Zoologisches Forschungsmuseum Alexander Koenig (ZFMK) (Björn Rulik)

Bitte geben Sie an, für welches Taxon Sie Sammelröhrchen benötigen und von welchem Institut Sie diese bestellen möchten.

Absenden

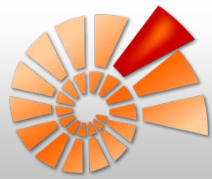


Materialbestellung



- GBOL-System generiert Leereinträge in der DWB (gemäß der angeforderten Röhrchenmenge)
- Download leerer GBOL-Sammeltabellen

Sammelinfos				
GBOL-Nr.	Feldnummer	Taxon-Name	Fundortbeschreibung	Region
1000000	PG 08613	Cricetus cricetus	Grainfield east of Butzheim, Butzheim	Butzheim, Romerskirchen
ZFMK-TIS-9647				
ZFMK-TIS-9648				
ZFMK-TIS-9649				
ZFMK-TIS-9650				
ZFMK-TIS-21298				
ZFMK-TIS-21299				
ZFMK-TIS-21300				
ZFMK-TIS-21301				
ZFMK-TIS-21302				
ZFMK-TIS-21303				
ZFMK-TIS-21304				
ZFMK-TIS-21305				
ZFMK-TIS-21306				
ZFMK-TIS-21307				
ZFMK-TIS-21308				
ZFMK-TIS-21309				
ZFMK-TIS-21310				
ZFMK-TIS-21311				
ZFMK-TIS-21312				
ZFMK-TIS-21313				
ZFMK-TIS-21314				
ZFMK-TIS-21315				
ZFMK-TIS-21316				
ZFMK-TIS-21317				
ZFMK-TIS-21318				
ZFMK-TIS-21319				
ZFMK-TIS-21320				
ZFMK-TIS-21321				
ZFMK-TIS-21322				
ZFMK-TIS-21323				
ZFMK-TIS-21324				
ZFMK-TIS-21325				
ZFMK-TIS-21326				
ZFMK-TIS-21327				
ZFMK-TIS-21328				
ZFMK-TIS-21329				
ZFMK-TIS-21330				
ZFMK-TIS-21331				
ZFMK-TIS-21332				
ZFMK-TIS-21333				
ZFMK-TIS-21334				
ZFMK-TIS-21335				

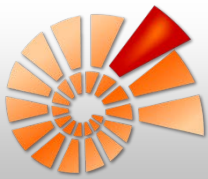


Eingabe der Feldinformation



- Dateneingabe-Möglichkeiten
 - Sammelliste und anschließendes Hochladen in die DWB per ImportWizard
 - DiversityWebEditor
- Senden der Belege an den zuständigen Taxonkoordinator in einem der GBOL Institute (BGBM, SMNG, SMNK, SMNS, ZFMK, ZSM, etc.)





DWB ImportWizard



Import wizard

Collection event

- Collection
- Locality
- Altitude
- Coordinates
- Place
- TK25
- Gauss
- Depth
- Height
- Exposition
- Slope
- Plot

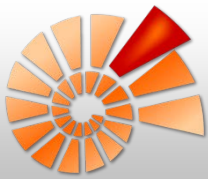
Locality

- Country From file For all: [dropdown] [23]
- Locality description From file For all: [dropdown] Pre.: [input] [21]
- 2 Locality description Pre.: [input]
- 3 Locality description Pre.: [input]
- Description of the habitat From file For all: [dropdown] Pre.: [input] [35]
- Number of the collection event Pre.: [input]
- Collecting method From file For all: [dropdown] Pre.: [input] [26]
- Notes Pre.: [input]

Table: CollectionSpecimen Column: AccessionNumber = Accession number

CollectionSpecimen AccessionNumber	CollectionSpecimen AccessionNumber	CollectionSpecimen DepositorsAccessio	CollectionSpecimen DepositorsName	CollectionAgent1 CollectorsNumber	IdentificationUnit1 HierarchyCache CollectionSpecimen StorageLocation	IdentificationUnit1 FamilyCache			
31985	ZFMK-TIS-19045	1315	Wesener, T.		Diplopoda	Glomeridae	Glomeris marginata	Villers	1789
31993	ZFMK-TIS-19057	1321	Wesener, T.		Diplopoda	Glomeridae	Glomeris marginata	Villers	1789
31978	ZFMK-TIS-19037	748	Wesener, T.		Diplopoda	Glomeridae	Glomeris marginat...	Villers	1789
31944	ZFMK-TIS-18992	1358	Wesener, T.		Diplopoda	Glomeridae	Glomeris pustulata	Fabricius	1781
31945	ZFMK-TIS-18993	1360	Wesener, T.		Diplopoda	Glomeridae	Glomeris pustulata	Fabricius	1781
31974	ZFMK-TIS-19030	795	Wesener, T.		Diplopoda	Glomeridae	Glomeris pustulata	Fabricius	1781
31988	ZFMK-TIS-19052	1327	Wesener, T.		Diplopoda	Glomeridae	Glomeris pustulata	Fabricius	1781
31963	ZFMK-TIS-19013	1337	Wesener, T.		Diplopoda	Glomeridae	Glomeris undulata	C. L. Koch	1844
31964	ZFMK-TIS-19014	1336	Wesener, T.		Diplopoda	Glomeridae	Glomeris undulata	C. L. Koch	1844

File
Series
Collection event
Collection date
Locality
Altitude
Coordinates
Place
Plot
Specimen
Accession
Depositor
Notes
Project
Collectors
Collector 1
Organisms
Organism 1
Identification 1
Parts
Part 1
Import

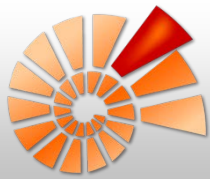


DWB ImportWizard



- Import der Daten aus heruntergeladenen Sammellisten via ImportWizard
- Stellen alle Feld- und Taxondaten zur weiteren Nutzung zur Verfügung

Collection/Specimen AccessionNumber	Collection/Specimen AccessionNumber	Collection/Specimen DepositorAccession	Collection/Specimen DepositorName	CollectionAgent1 CollectorNumber	IdentificationUnit1 HierarchyCache	Collection/Specimen StorageLocation	IdentificationUnit1 FamilyCache	
31985	ZFMK-TIS-19045	1315	Wesener, T.					
31983	ZFMK-TIS-19057	1321	Wesener, T.					
31978	ZFMK-TIS-19037	748	Wesener, T.		Diplopoda	Glomeridae	Glomeris marginata	Villers
31944	ZFMK-TIS-18992	1358	Wesener, T.		Diplopoda	Glomeridae	Glomeris marginata	Villers
31945	ZFMK-TIS-18993	1360	Wesener, T.		Diplopoda	Glomeridae	Glomeris marginata	Villers
31974	ZFMK-TIS-19030	795	Wesener, T.		Diplopoda	Glomeridae	Glomeris pustulata	Fabricius
31988	ZFMK-TIS-19052	1327	Wesener, T.		Diplopoda	Glomeridae	Glomeris pustulata	Fabricius
31963	ZFMK-TIS-19013	1337	Wesener, T.		Diplopoda	Glomeridae	Glomeris pustulata	Fabricius
31964	ZFMK-TIS-19014	1336	Wesener, T.		Diplopoda	Glomeridae	Glomeris undulata	C. L. Koch
					Diplopoda	Glomeridae	Glomeris undulata	C. L. Koch




DiversityWebEditor



https://dwb.snsb.info/DiversityWebEditor/index.html?Server=zfmk.div DiversityWebEditor

Konvertieren Auswählen

 **DiversityWebEditor** Version 0.0.8.1

? **Dateneingabe** Einstellungen

Daten verwalten

Fundort anlegen:

Neu Kopieren Löschen

Sammelobjekt anlegen:

Neu Kopieren Löschen

Daten anzeigen

Suchen

Von <dd.MM.yyyy> 15

Bis <dd.MM.yyyy> 15

Max. Anzahl Treffer 20

Fundortverzeichnis

- Arun (river)
- Mai Pokhari
- Taplejung
- Behrens Knipp
- Deimerbachtal
- Lourdes
- Steinetal
- Kastellaun
- Kastellaun
- Kastellaun
- Kastellaun
- Rehberg
- Rehberg
- Rehberg

Daten eingeben

Ortsangaben

ok	Fundortbeschreibung	Land	Region	Datum	Sammelmethode	Breitengrad	Längengrad	Georeferenzierung
<input type="checkbox"/>	Arun (river)	Nepal	Arun (river); Nepal	09.06.1988				

Sammelobjekt

ok	GBOL-Nr.	Feldnummer	Sammler	Anzahl Individuen	Entwicklungsstadium	Geschlecht
<input checked="" type="checkbox"/>	HET 2004/2		Martens & Schawaller	1	adult	female

Bestimmung

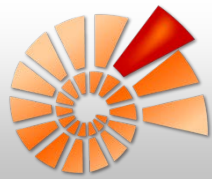
ok	Taxon-Name	Familie	Taxon-Hierarchie	Datum der Bestimmung	Bestimmer	Kontakt
<input type="checkbox"/>	Phorticus schawalleri	Kerzhner, 1992			Kerzhner	

Probe

ok	Fixierungsmethode	Sammlungs-Nr.	Platte oder Box	Position in Platte	Gewebetyp	Gewebemenge	Bemerkung
<input checked="" type="checkbox"/>	pinned	412	ZFMK Insecta Heteroptera Nabidae 30	Nabidae 30		1	Cond

Allgemeine Bemerkungen (nur für Projektbeteiligte)

<https://dwb.snsb.info/DiversityWebEditor/>

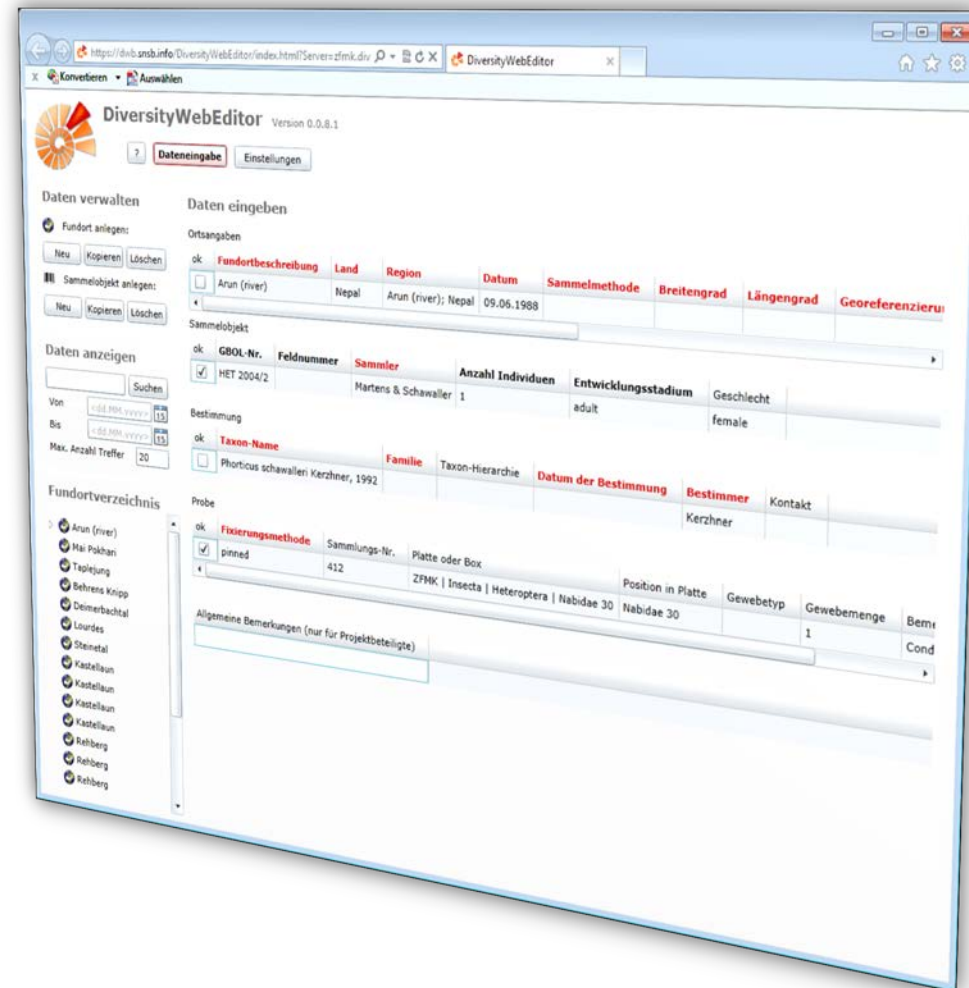


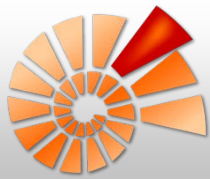
DiversityWebEditor



Eingabe von Felddaten direkt über das Web in die DWB

- entwickelt am SNSB IT-Zentrum, München
- eingebettet in die Datenlogik des GBOL Web Interfaces
- hilft bei der Synchronisierung der Daten zwischen dem GBOL Web Portal und der DWB
- in Kürze in das GBOL-Portal integriert





Generierung des DNA Barcodes

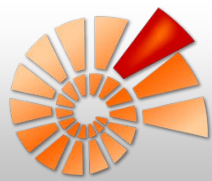


Geneious – Labor Management System (LIMS)

The screenshot displays the Geneious 6.0.5 software interface. The top menu bar includes File, Edit, View, Tools, Sequence, Annotate & Predict, and Help. Below the menu is a toolbar with icons for Back, Forward, Sequence Search, Agents, Align/Assemble, Tree, Primers, Cloning, Biocode, New Reaction, Back Up, Support, and Help. A search bar is located on the right side of the toolbar.

The main window is divided into two panes. The left pane shows a hierarchical tree view of sources, including Local (0), Searches (0), Shared Databases, and gbol.geneious (0). The right pane displays a list of sequences with columns for Name, Bin, Taxonomy, Ambiguities, HCC, Sequence Le., Post-Trim, and a status icon. The list shows various sequences with their corresponding taxonomic information and quality metrics.

Below the sequence list is a Sequence View window showing a DNA sequence with a color-coded alignment. The sequence is displayed in a grid format with columns representing positions (1 to 656) and rows representing different sequence reads. The sequence is highlighted in green, and a mouse cursor is positioned over residue 489 (A - quality 107, residue 163 (Stop codon)).



Generierung des DNA Barcodes



Labor

- DNA-Extraktion
- PCR
- DNA-Sequenzierung (MacroGen, GPI)
- Rohsequenzen
- DNA-Barcodes

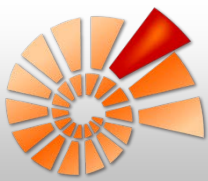
Geneious 6.0.5 - For non-commercial use only

ID	Name	Bin	Taxonomy	Ambiguities	HQ%	Sequence Lc.	Post-Trim	FP
26615.ZFMK-TS-2258.A5		High	Arachnida; Linyphiidae; Tenuiphantes flavipes	0	100.0%	658	658	ZFN
26616.ZFMK-TS-2259.A6		High	Arachnida; Linyphiidae; Linyphia hortensis	0	99.8%	658	658	ZFN
26618.ZFMK-TS-2261.A8		High	Arachnida; Linyphiidae; Macrurus rufus	0	100.0%	658	658	ZFN
26620.ZFMK-TS-2263.A10		High	Arachnida; Clubionidae; Clubiona terrestris	0	99.8%	658	658	ZFN
26622.ZFMK-TS-2264.A11		High	Arachnida; Anyphaenidae; Anyphaena accentuata	0	99.8%	658	658	ZFN
26623.ZFMK-TS-2266.B1		High	Arachnida; Theridiidae; Pavidiscura pallens	0	99.1%	658	658	ZFN
26624.ZFMK-TS-2267.B2		High	Arachnida; Araneidae; Araneus sturmi	0	100.0%	658	658	ZFN
26625.ZFMK-TS-2268.B3		High	Arachnida; Thomisidae; Xysticus cristatus	0	100.0%	658	658	ZFN
26626.ZFMK-TS-2269.B4		High	Arachnida; Salticidae; Synageles venator	0	100.0%	658	658	ZFN
26627.ZFMK-TS-2270.B5		High	Arachnida; Linyphiidae; Tenuiphantes cristatus	0	98.9%	658	658	ZFN
26628.ZFMK-TS-2271.B6		High	Arachnida; Araneidae; Araneus sturmi	0	100.0%	658	658	ZFN
26630.ZFMK-TS-2273.B8		High	Arachnida; Lycosidae; Alopecosa pulverulenta	0	100.0%	658	658	ZFN
26631.ZFMK-TS-2274.B9		High	Arachnida; Clubionidae; Clubiona comta	0	99.4%	658	658	ZFN
26632.ZFMK-TS-2275.B10		High	Arachnida; Salticidae; Euphrys frontalis	0	99.8%	658	658	ZFN
26633.ZFMK-TS-2276.B11		High	Arachnida; Salticidae; Evarcha falcata	0	100.0%	658	658	ZFN
26634.ZFMK-TS-2277.B12		High	Arachnida; Linyphiidae; Maso sundevalli	0	100.0%	658	658	ZFN
26635.ZFMK-TS-2278.C1		High	Arachnida; Linyphiidae; Walckenaeria cucullata	0	100.0%	658	658	ZFN
26636.ZFMK-TS-2279.C2		High	Arachnida; Philodromidae; Tibellus oblongus	0	100.0%	658	658	ZFN
26637.ZFMK-TS-2280.C3		High	Arachnida; Gnaphosidae; Haplodrassus silvestris	0	100.0%	658	658	ZFN
26638.ZFMK-TS-2281.C4		High	Arachnida; Dictyidae; Nigma puella	0	100.0%	658	658	ZFN
26639.ZFMK-TS-2282.C5		High	Arachnida; Linyphiidae; Gongylidium rufipes	0	100.0%	658	658	ZFN
26640.ZFMK-TS-2283.C6		High	Arachnida; Salticidae; Heliophanus cupreus	0	100.0%	658	658	ZFN
26641.ZFMK-TS-2284.C7		High	Arachnida; Clubionidae; Clubiona stagnatilis	0	100.0%	658	658	ZFN
26642.ZFMK-TS-2287.C10		High	Arachnida; Haniidae; Hahnia montana	0	100.0%	658	658	ZFN
26643.ZFMK-TS-2288.C9		High	Arachnida; Haniidae; Antistea elegans	0	100.0%	658	658	ZFN
26644.ZFMK-TS-2289.C12		High	Arachnida; Linyphiidae; Neon reticulatus	0	99.8%	658	658	ZFN
26645.ZFMK-TS-2289.C11		High	Arachnida; Salticidae; Pityophantes phrygian...	0	98.0%	658	658	ZFN
26647.ZFMK-TS-2291.D2		High	Arachnida; Araneidae; Agaienatea redii	0	99.8%	658	658	ZFN
26648.ZFMK-TS-2291.D1		High	Arachnida; Araneidae; Amaurobius similis	0	100.0%	658	658	ZFN
26649.ZFMK-TS-2292.D3		High	Arachnida; Tetragnathidae; Metellina merianae	0	100.0%	658	658	ZFN
26650.ZFMK-TS-2293.D4		High	Arachnida; Linyphiidae; Diplostyla concolor	0	95.7%	658	658	ZFN
26651.ZFMK-TS-2294.D5		High	Arachnida; Linyphiidae; Neriea montana	0	99.7%	658	658	ZFN
26652.ZFMK-TS-2294.D5		High	Arachnida; Linyphiidae; Neriea montana	0	99.7%	658	658	ZFN

Sequence View: DNA Fold, Dotplot, Gels, Text View, Info

Allow Editing, Annotate & Predict, Save

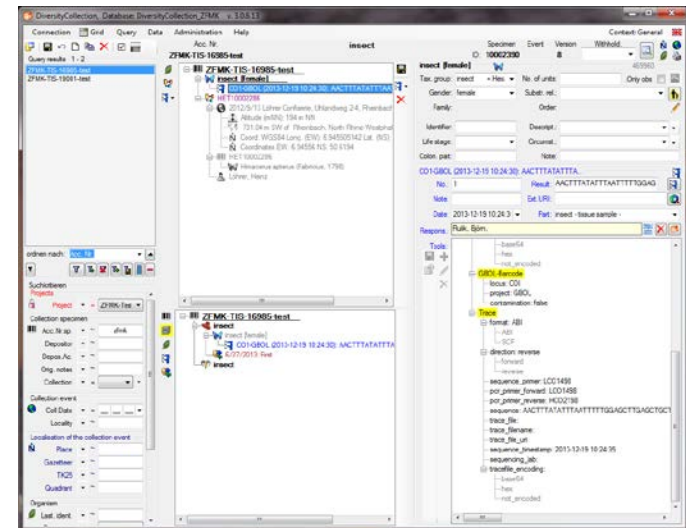
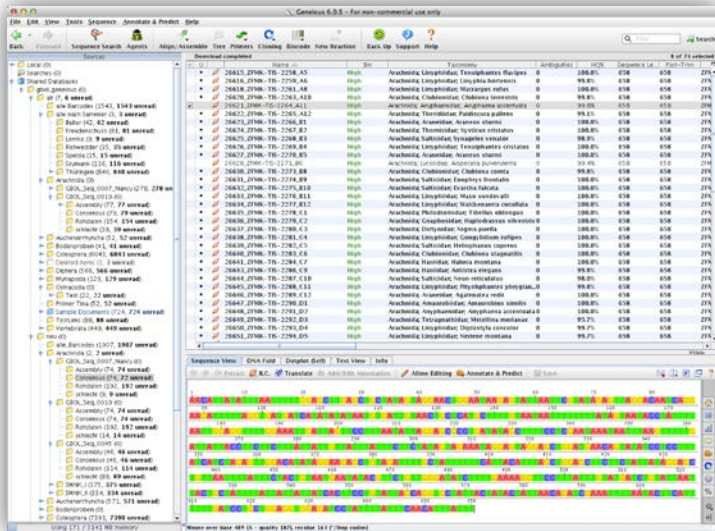
Home over base 489 (A - quality 187, residue 143 (Stop codon))

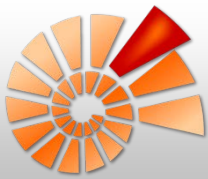


Verknüpfung von Feld-, Taxon- und DNA-Sequenzdaten



- Geneious (*LIMS*) ist mit der DWB (*FIMS*) verknüpft
- *LIMS* liest *FIMS*-Daten
- Generierung des Barcodes
- *LIMS* übergibt Barcode an die DWB





DiversityCollection



DiversityCollection, Database: DiversityCollection_ZFMK v. 3.0.6.13

Connection Grid Query Data Administration Help

Acc. Nr. insect

Specimen ID: 10002390 Event 8 Version 469960

Context: General

insect [female] 469960

Tax. group: insect = Hex No. of units: Only obs

Gender: female Substr. rel.:

Family: Order:

Identifier: Descript.:

Life stage: Circumst.:

Colon. part: Note:

CO1-GBOL (2013-12-19 10:24:30): AAC TTTATATTTA...

No.: 1 Result: AAC TTTATATTTAATTTTGGAG

Note: Ext. URI:

Date: 2013-12-19 10:24:3 Part: insect - tissue sample -

Respons.: Rulik, Björn.

Tools:

- base64
- hex
- not_encoded
- GBOL-Barcode
 - locus: COI
 - project: GBOL
 - contamination: false
- Trace
 - format: ABI
 - ABI
 - SCF
 - direction: reverse
 - forward
 - reverse
 - sequence_primer: LCO1498
 - pcr_primer_forward: LCO1498
 - pcr_primer_reverse: HCO2198
 - sequence: AAC TTTATATTTAATTTTGGAGCTTGAGCTGCT
 - trace_file:
 - trace_filename:
 - trace_file_uri:
 - sequence_timestamp: 2013-12-19 10:24:35
 - sequencing_lab:
 - tracefile_encoding:
 - base64
 - hex
 - not_encoded

ZFMK-TIS-16985-test

insect [female]

CO1-GBOL (2013-12-19 10:24:30): AAC TTTATATTTAA

HET10002286

2012/9/13 Löhner Coniferie, Umlandweg 2-4, Rheinbach

Altitude (mNN): 194 m NN

731.04 m SW of Rheinbach, North Rhine-Westphal

Coord. WGS84 Long. (EW): 6.945505142 Lat. (NS):

Coordinates EW: 6.94556 NS: 50.6194

HET10002286

Himacerus apterus (Fabricius, 1798)

Löhner, Heinz

ZFMK-TIS-16985-test

insect

insect [female]

CO1-GBOL (2013-12-19 10:24:30): AAC TTTATATTTA

6/27/2013: First

insect

Query results 1 - 2

ZFMK-TIS-16985-test

ZFMK-TIS-19001-test

ordnen nach: Acc. Nr.

Suchkriterien

Projects

Project = ZFMK-Tes

Collection specimen

Acc.Nr.sp. ~ zfmk

Depositor ~

Depos.Ac. ~

Orig. notes ~

Collection ~

Collection event

Coll.Date =

Locality ~

Localisation of the collection event

Place ~

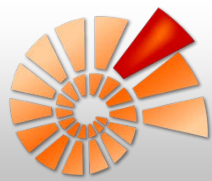
Gazetteer ~

TK25 ~

Quadrant ~

Organism

Last. ident. ~



DiversityCollection: Analysen



Analysis

View

Query results 1 - 2

- Barcode
- Contamination

order by: Analysis

Query conditions

Project

Project = ZFMK-Test

Analysis

Display te. ~

Descripti. ~

Unit ~

Note ~

URI ~

Analysis

- Barcode
 - CO1-GBOL
 - TraceForward
 - TraceReverse
 - LCO1490_Forward
 - HCO2198_Reverse

Display text: Barcode

Description:

Unit: Only for hierarchy

Notes:

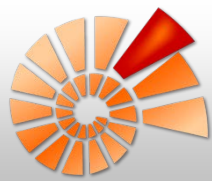
Tax.gr.: cnidaria
echinodem
evertibrate
fish
insect

Projects: ZFMK-Test
GBOL

Result list:

Result	Description	Display text	Display order	Notes
--------	-------------	--------------	---------------	-------

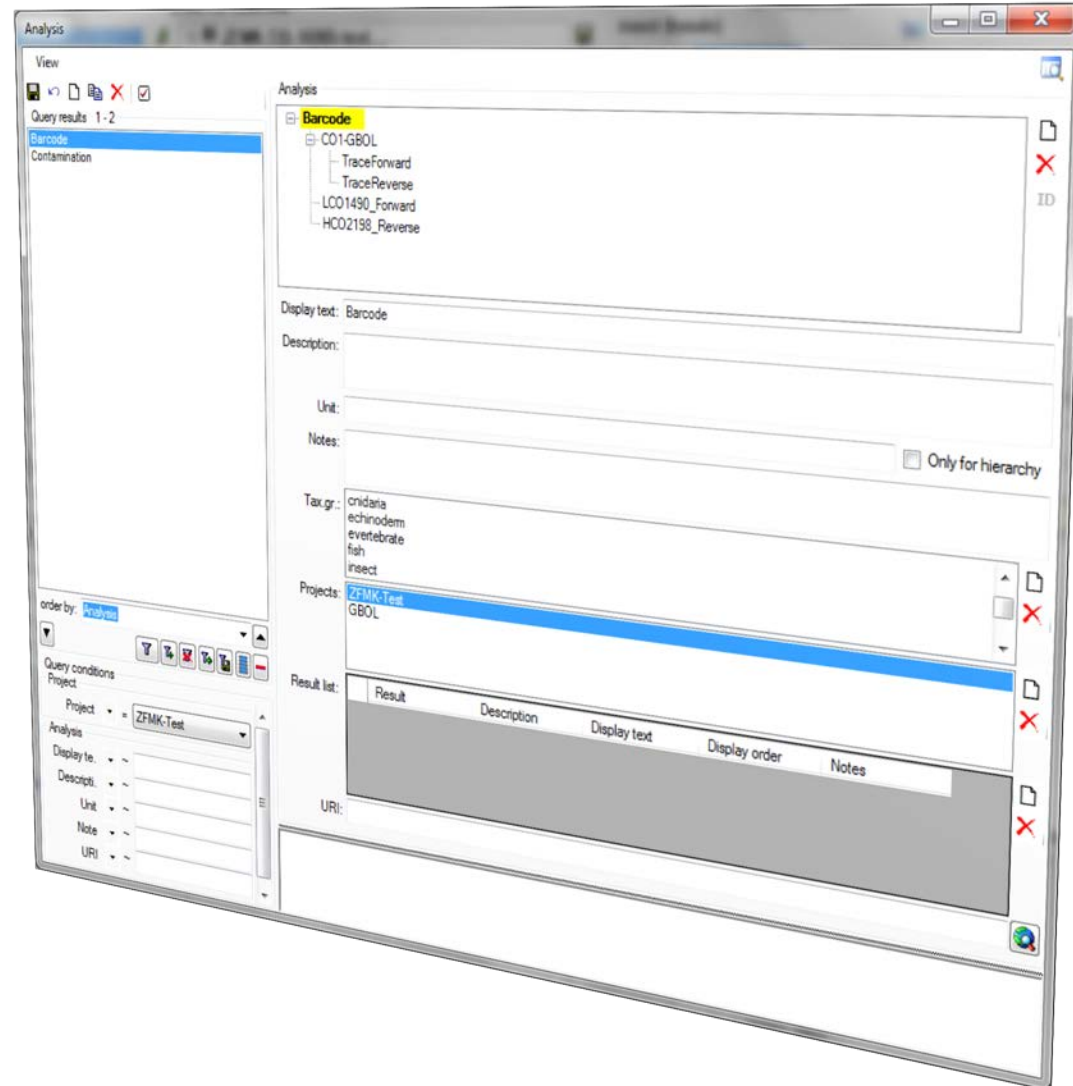
URI:

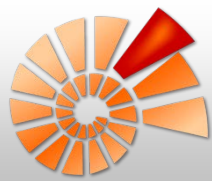


DiversityCollection: Analysen



- Analysen = was wurde mit welchem Ergebnis gemacht
- Beispiele
 - Längenmessung (Blatt, Bein)
 - Vegetationsschicht, Floristischer Status
 - Sequenzen / DNA-Barcodes



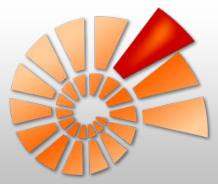


DiversityCollection: Tools



The screenshot displays the 'Tools' section of the DiversityCollection web application. The interface is divided into several panels:

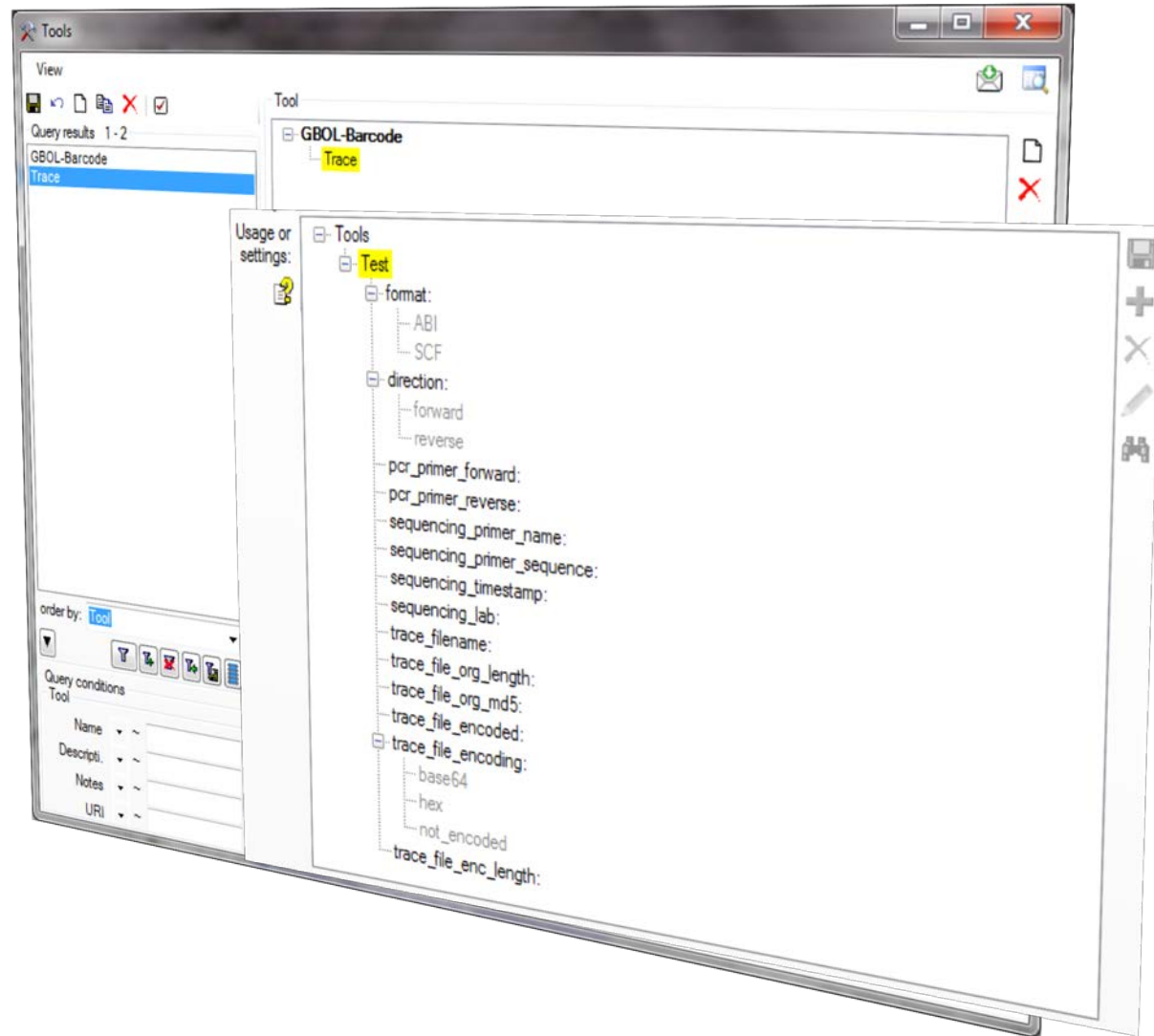
- View Panel:** Located at the top left, it contains a 'Query results 1 - 2' section with a table listing 'GBOL-Barcode' and 'Trace'. Below this is a 'Usage or settings:' section with a help icon.
- Tool Panel:** Located at the top right, it shows a tree view with 'GBOL-Barcode' expanded to show 'Trace'.
- Tools Panel:** The main central panel, showing a tree view with 'Tools' expanded to 'Test'. Under 'Test', there are several sub-sections:
 - format:** ABI, SCF
 - direction:** forward, reverse
 - pcr_primer_forward:**
 - pcr_primer_reverse:**
 - sequencing_primer_name:**
 - sequencing_primer_sequence:**
 - sequencing_timestamp:**
 - sequencing_lab:**
 - trace_filename:**
 - trace_file_org_length:**
 - trace_file_org_md5:**
 - trace_file_encoded:**
 - trace_file_encoding:** base64, hex, not_encoded
 - trace_file_enc_length:**
- Ordering and Query Conditions:** Located at the bottom left, it includes an 'order by:' dropdown set to 'Tool', a 'Query conditions' section for 'Tool' with fields for Name, Descripti., Notes, and URI, and a set of filter icons.

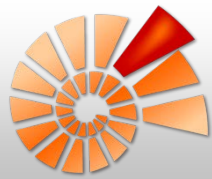


DiversityCollection: Tools



- Tools = Werkzeuge, Methoden
- Beispiele
 - Maßband
 - PCR
 - Techniker
 - Labor





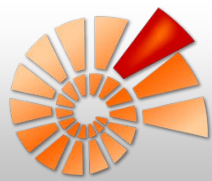
DNA Barcodes



Verknüpfung von Feld- und DNA-Daten

- Web Service speichert alle Barcodes in der DWB.
- Sequenzen sind in DiversityCollection verfügbar.

The screenshot displays the DiversityCollection software interface. The main window shows a specimen record for 'ZFMK-TIS-16985-test' (insect [female]). The specimen details include collection date (2012/9/13), location (Löhner Confiserie, Uhländweg 2-4, Pöthenbach), altitude (134 m NN), coordinates (731 04 m SW of Pöthenbach, North Rhine-Westphal), and collector (Löhner, Heinz). The DNA barcode sequence is shown as 'CO1-GBOL (2013-12-19 10:24:30): AACCTTATATTTAA'. The right panel displays the specimen's taxonomic information (insect [female], Hex) and collection details (No. of units: 469960, Gender: female, Family: [blank], Order: [blank]). The bottom right panel shows the DNA sequence details, including the locus (COI), project (GBOL), and the sequence itself: 'AACCTTATATTTAAATTTTGGAGCTTGAGCTGCT'. The interface also includes a search bar, a list of projects, and various filters for specimen data.



Datenkonsistenz



ID zieht sich unverändert durch den gesamten Arbeits- und Datenfluss

11	ZFMK-TIS-2261	29.04.12-03	Macrargus rufus
12	ZFMK-TIS-2262	29.04.12-03	Neriere clathrata
13	ZFMK-TIS-2263	29.04.12-03	Clubiona terrestris
14	ZFMK-TIS-2264	29.04.12-473	Anyphaena accentuata
15	ZFMK-TIS-2265	29.04.12-473	Paidiscura pallens
16	ZFMK-TIS-2266	29.04.12-473	Araneus sturmi

Collection Data Spreadsheet

•	26618_ZFMK-TIS-2261_A8	High	Arachnida; Linyphiidae; Macrargus rufus	0
•	26620_ZFMK-TIS-2263_A10	High	Arachnida; Clubionidae; Clubiona terrestris	0
<input checked="" type="checkbox"/>	26622_ZFMK-TIS-2264_A11	High	Arachnida; Anyphaenidae; Anyphaena accentuata	0
•	26622_ZFMK-TIS-2265_A12	High	Arachnida; Theridiidae; Paidiscura pallens	0
•	26623_ZFMK-TIS-2266_R1	High	Arachnida; Araneidae; Araneus sturmi	0

Geneious

[1] Accentuata_2264

G_BOL_20130217-S-1.1
Anyphaena accentuata
Media: 1 · Literature: 0

[2] HET100000000

P_Grobe_20130210-S-86.1
Phorticus simplicipes

Specimen Repository (preserved)

Rights holder: German Barcode of Life at ZFMK

Institution code: ZFMK

Collection code: TIS

Voucher ID: 2264

Morph·D·Base

Diversity Workbench

