



**GLOBAL
BIODIVERSITY**

**INFORMATION
FACILITY**

Annual Report
2005

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Global Biodiversity Information Facility

FOURTH ANNUAL REPORT

Letter from the Executive Secretary / Director

GBIF accomplished much during 2005, and I am pleased to present this report on its activities, which included

- Increasing Participation by 4 new countries and 3 new organisations
- Growing both the number of data providers and the amount of data available through the Portal
- Receiving and responding to the report of the GBIF Third-Year Review
- Crafting a new Memorandum of Understanding (MOU) for the next phase of GBIF
- Writing Strategic and Operational Plans in support of the new MOU.

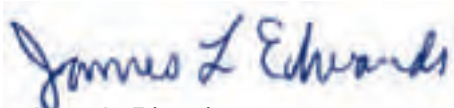
At the Secretariat specifically, accomplishments were not limited to

- Learning to do “logical frameworks” to include in the Operational Plan
- Obtaining two grants from the Gordon and Betty Moore Foundation and one from Microsoft Research (Cambridge)
- Recruiting and hiring a Nodes Liaison Officer and four other new on-site staff in the Secretariat, and the first off-site staff in collaboration with TDWG
- Making a commitment to improve the GBIF Data Portal
- Using e-conferences to prioritise the Seed Money competitions
- Strengthening our work and cooperation with the CBD and reaching out to other conventions (e.g. Ramsar).

Looking toward 2006, GBIF can anticipate the launch of the new, no-longer-prototype Data Portal, preparations to implement the new MOU and Strategic and Operational Plans by developing a Work Programme for 2007 - 2008, and continuing interactions among the Secretariat, our advisory committees and the Governing Board.

I hope you find it as exciting as I do that these GBIF developments are really beginning to bring us closer to the goal of making the world’s biodiversity data openly and freely available on the Internet.

Sincerely,



James L. Edwards

Global Biodiversity Information Facility Secretariat
Copenhagen, May 2006



Summary Timeline for 2005

14 Jan	Meeting with representatives of the nomenclatural codes, (Copenhagen, Denmark)
17 Jan	Request for Proposals for mirror sites released
20 - 22 Jan	GBIF - ENBI workshop: From Ink to Electrons - Challenges and Solutions in Digitising Herbaria (Chania, Greece)
23 - 25 Feb	DIGIT workshop on Digitisation of Entomology Collections, (Columbus, Ohio, USA)
25 Feb	Memorandum of Cooperation with Consortium for the Barcode of Life signed
28 Feb	GBIF Third Year Review Report released
2 - 4 March	ETI-NLBIF-GBIF workshop: Building Speciesbanks - How Shall We Shape the Future? (Amsterdam, Netherlands)
14 March	GBIF - ENBI workshop Statement on Open Access released
14 - 19 March	DIGIT workshop on Digitisation of Mycology Collections, (Hong Kong)
30 Mar	Nodes Liaison Officer joins Secretariat staff
4 - 8 April	CONABIO - GBIF Ecological Niche Modeling Workshop (Mexico City, Mexico)
18 - 22 April	GB10, Brussels <ul style="list-style-type: none">• 2nd Science Planning Meeting• 3rd Science Symposium: Tropical Biodiversity: – Science, Data, Conservation• 4th Ebbe Nielsen Prize awarded to Pablo Goloboff• Announcement of GBIF mirror sites: Germany, Korea, USA• 7th NODES Committee Meeting



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9 May	New mapping capability made available to the GBIF Data Portal by CBIF
10 - 12 May	ENBI - GBIF workshop: Improving the European participation in GBIF (Palma de Mallorca, Spain)
11 May	Moore Foundation announces award to GBIF for Amazon Basin Biodiversity Information Facility feasibility study
12 May	<ul style="list-style-type: none"> • Moore Foundation announces award to GBIF and TDWG for development of standards • GBIF session at Natural Science Collections Alliance meeting, (Santa Barbara CA, USA)
22 May	DanBIF, Zoological and Botanical Museums, and GBIF Secretariat organise and participate in International Day for Biological Diversity
25 May - 7 Jun	DIGIT and ECAT e-conferences on priorities for Seed Money awards
10 - 11 Jun	GBIF publishes GEO Magazine bioblitz data via communications portal
12 - 17 Jun	Joint IPGRI/CGIAR/GBIF workshop, (Rome, Italy)
17 Jun	Memorandum of Cooperation between ECAT and uBio signed
28 Jun	RFP for 2005 - 2006 Seed Money released
29 Jun	International Commission on Zoological Nomenclature becomes Associate Participant in GBIF
4 - 5 July	Science Committee meeting, (Copenhagen, Denmark)
17 August	White Papers on Data Quality, Data Cleansing and Data Uses released
14 Sep	GBIF training workshop: Data Provision during the TDWG annual meeting
20 Sep	Request for Proposals for 2005 Demonstration Project released
28 Sep	GBIF Google Earth service contributed by Derek Munro of CBIF launched
29 Sep	First monthly virtual meeting of the expanded GBIF ICT Expert Group
5 Oct	ECAT Long Term Strategy wiki launched
7 Oct	Software to help automate data cleansing (DataTester) made available
10 - 15 Oct	<p>GB11, Stockholm</p> <ul style="list-style-type: none"> • Election of Governing Board Chair and other officers • Discussion of MoU, and Strategic and Operational Plans for 2007 - 2011 • Online Nodes' Guide (Wiki format) presented to Nodes
17 Oct	First GBIF mirror site (Berlin, Germany) opens
25 Oct	GBIF cited in Science (vol. 310, p. 405) as a noteworthy creative idea
28 Oct	GBIF Call for Mentoring Projects released
10 Nov	GBIF Symposium, at DIVERSITAS Open Science Conference: Biodiversity Informatics: – Acquisition, Analysis, Archiving and Applications
15 Nov	Full proposals for DIGIT Seed Money due
25 Nov	GBIF - GBIF-Spain training workshop: Data provision (La Plata, Argentina)
30 Nov	Full proposals for ECAT Seed Money due
5 - 9 Dec	2nd GBIF Ecological Niche Modeling workshop held (Lawrence, Kansas, USA)
12 - 13 Dec	DIGIT Seed Money Review Panel meeting, (Copenhagen, Denmark)
15 Dec	Nominations for 2006 Ebbe Nielsen Prize due



Introduction

Based on the experiences of previous years, the Science Committee recommended that the Secretariat develop the work programme over a two-year timeframe beginning in 2005. This provides greater efficiency in the planning and execution process, and allowed for careful planning of expenditures.

The 2005 - 2006 Work Programme centers around four themes, and involves a new position in the Secretariat - that of the Nodes Liaison Officer. Three of the themes are the same as the previous year:

- Nodes and GBIF Network Implementation
- Digital Biodiversity Science
- Furthering Participation, Impact and Benefits of GBIF

with the addition of a fourth theme:

- Training and Capacity Building in Biodiversity Informatics



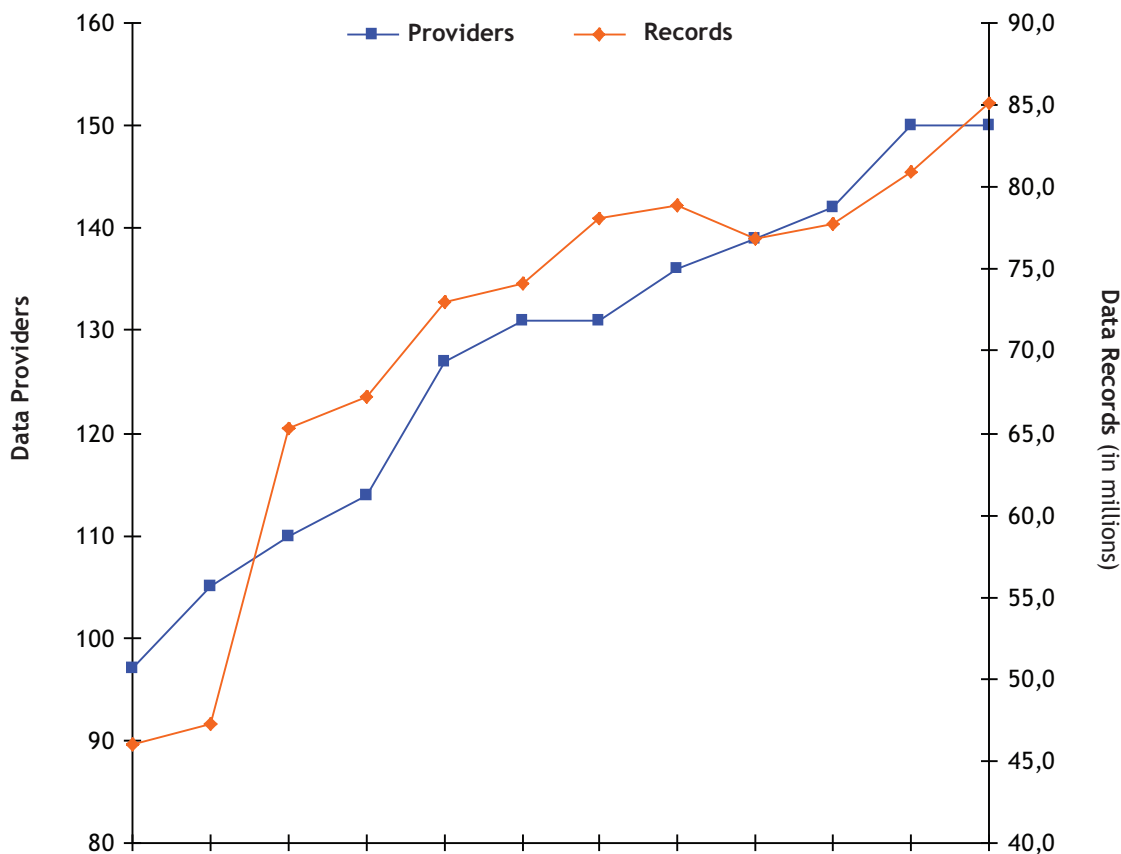
Photo © Larry Speers 2005.
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Nodes and GBIF Network Implementation

GROWTH AND ENHANCEMENT OF THE PROTOTYPE DATA PORTAL

As of the end of 2005, the Portal was serving more than 85 million records from over 400 collections via 150 data providers associated with 37 GBIF Participants. At the end of this report (Annex 4) the collections that shared data during 2005, and the providers for each, are listed with numbers of records shared. Also, the number of names data records increased from 323,000 species (18% of the total number) in 2004 to 550,000 species (30%) in 2005. These data were shared by 37 providers, an increase of 19 over 2004.

GROWTH IN SPECIMEN/OBSERVATION DATA SHARING IN 2005



Several enhancements to the Prototype Data Portal were begun in 2005. Four programmers began working on substantial improvements, including automating the indexing process, preparing for distributed operation of the portal, improving the user interface and adding additional web services. An additional contractor has been appointed to coordinate development of a software package for data providers who wish to exchange taxonomic names and concepts with the GBIF network. This package will follow a model similar to the DiGIR and BioCASE provider software for taxon occurrence data; the new package is also intended to link together all kinds of names providers, including the Catalogue of Life partnership and new names information that has been developed through the ECAT seed awards.



During 2005, the Secretariat released a call for proposals to develop mirror sites for the Prototype Data Portal and the indexing service. Three such sites were selected, one each in Germany, Korea and the United States. The first site, in Berlin, opened on 17 October.

The specific objectives of the Data Portal include the following:

1. **Advertise data** - Data providers need a way to make their presence known and users need to be able to discover the data providers.
2. **Standardise data** - Promote the use of standards as the only mechanism to develop large-scale data exchange between many participants.
3. **Integrate data** - Integrate data from different sources so that it becomes useful for analyses at levels that are not possible just by considering individual resources.
4. **Discover data** - Offer general search and query functions so that the actual data can be viewed and downloaded for scientific and other purposes. This capability should exist for both human and machine users. The search functions should offer as much flexibility as possible in order not to introduce restrictions in the ways that the data could be used.
5. **Summarise data** - Present and visualise the data available within the GBIF Network (including quantity, quality, coverage, and gaps).
6. **Enhance data quality** - Data providers are expected to take reasonable measures to ensure the quality of their data, but this can be supported by tools and services offered centrally.
7. **Demonstrate data usage** - Illustrate possible ways to use the data through examples of analytical tools (particularly from GBIF demonstration projects).
8. **Encourage network growth** - Promote inclusion of new data sets and give credit to those who share data. Demonstrate the actual use of biodiversity data. Illustrate how repatriation of data is actually happening through the GBIF Network.
9. **Extend coverage** - Integrate an increasingly wide range of classes of information to encompass the full range of scientific biodiversity data (including among others, images, descriptive data, literature, links to sequence data, etc.).
10. **Support contributors** - Assist the GBIF Participants in demonstrating to their home institutions and decision makers the benefits arising from investment in data sharing and biodiversity informatics. Data providers' and database owners' efforts will need visible recognition to ensure that they get professional credit for their work.

Steps that were taken toward realising these goals in 2005 included setting requirements for the design of services (HTML and XML) to offer an integrated view of names data from all sources (nomenclators, global species databases, checklists) and including common names, hierarchies and concept data. Investigation was undertaken of methods for quality assessment, reconciliation of incongruent taxonomies and use of GUIDs.

Further, to solicit the widest possible input, a Wiki has been set up to discuss the requirements for and implementation of the Data Portal and its associated services [see <http://wiki.gbif.org/dadiwiki/wikka.php>].

To help speed up the process of more fully implementing the Data Portal, GBIF has provided funding to develop a Web Feature Service (WFS) implementation for inclusion in

the new Java data provider tool that is being developed at the University of Kansas. This tool will support multiple access protocols, including DiGIR and TAPIR as well as WFS. The aim of the WFS implementation is to make it simpler to integrate taxon occurrence data directly into GIS tools.

Other of the GBIF-supplied software packages were also enhanced during 2005, including the PHP provider package and the Python provider.

SHARING AND PRESENTING BIODIVERSITY DATA

Google Earth – In September of 2005, it became possible to plot GBIF data against Google Earth, a data visualisation tool that is freely available on the world wide web. Subsequent enhancements have included the ability to plot polygons as well as points, and the availability of gazetteers for some countries. GBIF is grateful to Derek Munro of the Canadian node for this capability.



The capabilities of Google Earth can be easily used by scientists and the public alike to visualize distributions of organisms relative to terrain or political boundaries, and conduct various analyses of species distributions.

Data Validation – During 2005, the Secretariat released a Java package that can perform a range of data validation tests against biodiversity data. The package can be configured to run tests against XML data or other data resources (including relational databases) and has been tested using both Darwin Core and ABCD data sets. New tests can be developed and added as required. This package was developed by CRIA in Brazil, and can be used by both data providers and data users as well as the Secretariat to improve the quality of the data available via the GBIF Network.



Further, three white papers concerned with data quality were made available in order to assist data providers and data users:

- **Principles of Data Quality** Data quality and errors in data are often neglected issues with environmental databases, modeling systems, GIS, decision support systems, etc. Too often, data are used uncritically without consideration of the errors contained within, and this can lead to erroneous results, misleading information, unwise environmental decisions and increased costs. The rapid increase in the exchange and availability of taxonomic and species-occurrence data has now made the consideration of the principles concerning data quality an important agenda item as users of the data begin to require more and more detail on the quality of this information. This paper expands on these issues and discusses a number of principles of data quality that should become core to the business of the natural history collections and observational communities as they release their data to the broader community.
- **Principles and Methods of Data Cleaning: Primary Species and Species-Occurrence Data** – This document examines methods for preventing as well as detecting and cleaning errors in primary biological collections databases. It discusses guidelines, methodologies and tools that can assist the natural history collections community and the observational communities to follow best practice in digitizing, documenting and validating information. But first, it also sets out a set of simple principles that should be followed in any data cleaning exercises.
- **Uses of Primary Species-Occurrence Data** This paper examines uses for primary species occurrence data in research, education and in other areas of human endeavor, and provides examples from the literature of many of these uses. The paper examines not only data from labels, or from observational notes, but the data inherent in museum and herbarium collections themselves, which are long-term storage receptacles of information and data that are still largely untouched. Projects include the study of the species and their distributions through both time and space, their use for education, both formal and public, for conservation and scientific research, use in medicine and forensic studies, in natural resource management and climate change, in art, history and recreation, and for social and political use.

NODES

Participant Node Toolkit – A contract was let in 2005 for the development of Participant Node Toolkits that will allow Participants to develop specialised portals against GBIF data. This toolkit will be presented to the Nodes Committee meeting in association with GB12, in April, 2006.

An online **Nodes reporting system** has been developed to help keep Nodes information up to date and to allow easy summaries of current and potential status and plans. In addition, the **NODES' Guide** (formerly known as the "best practices handbook for Nodes") has been developed based on earlier documents and new contributions from the Nodes. via a Wiki environment [see <http://wiki.gbif.org/gbif/wikka.php?wakka=NODES>]. The **NODES Wiki** aims to provide a "one stop shop" for technical resources and community knowledge for Nodes.



Node-to-Node Mentoring was demonstrated to be very helpful during 2005. Costa Rica mentored Nicaragua and Argentina, and Denmark mentored Ghana.

The Costa Rica - Nicaragua project aimed to introduce to the participants topics related to biodiversity informatics such as ecological modeling and analysis, design and implementation of data bases, development and application of protocols for the administration of collections, and the gathering and dissemination of specimen-related data including their combination with GIS layers. Two representatives of the participant node were trained. The mentor visited Nicaragua in order to follow up with the installation and administration process of a data node. As a result, Nicaragua has brought its first data provider online, which is serving approximately 85,000 records.

The objective of the Costa Rica - Argentina project was to strengthen overall capacity of the Red Nacional de Colecciones Biológicas (RNCB, or National Network of Biological Collections) to use GBIF-accepted standards for exchanging and disseminating taxonomic and biogeographic information, while extending the collaborative approach to other data providers across Argentina (the Asociación de Parques Nacionales, APN). This was carried out through:

- Two representatives of RNCB member institutions and two APN staff travelled to INBio, to be trained as trainers on the effective utilisation of database technologies, the development and application of protocols for the administration of collections, and the gathering and dissemination of specimen-related data including their combination with GIS layers.
- An action plan to train others upon return to Argentina, defined in close association with mentors from INBio, who remain available for consultation.
- Identification of other areas and themes where further regional cooperation is recommended as well as of opportunities for obtaining financial support for achieving such goals.

Denmark and Ghana worked together to produce a proposal to Danida (the Danish development aid agency) focused on building taxonomic and bioinformatics capacity in Ghana and to conduct a workshop in Ghana to introduce GBIF, the work of the GBIF Nodes, and discuss possible options to implement a Node in Ghana. The proposal was drafted, and the workshop held with a participation of 50 representatives of Ghanaian institutions. This may be considered the starting point for setting up a Node in the country as well as a national network of biodiversity institutions.

CEPDEC (Capacity Enhancement Program for Developing Countries) – A process for setting up a GBIF's CEPDEC in partnership with Development Agencies was initiated during 2005. CEPDEC is envisioned as a multi-stakeholder approach to helping developing countries gain access to, and learn how to utilise, biodiversity information. It focuses on developing capacity and tools to aid decision makers in a selected group of developing countries. Fruitful contacts have been maintained with representatives of the Danish Ministry of Foreign Affairs, and a Feasibility Study involving visits to Nicaragua and Tanzania was carried out. Ideas, and draft proposal and a request for comments and a listing of suitable Development Aid contacts for their countries have been circulated among GBIF participants. The first tangible results may be expected in 2006.



Digital Biodiversity Science

INFRASTRUCTURE AND STANDARDS

During 2005, The Gordon and Betty Moore Foundation awarded nearly \$1.5 million USD to the GBIF-TDWG partnership. The project funded by this grant is designed to establish a more formal process for development and maintenance of each of the Taxonomic Databases Working Group (TDWG) standards, which are so important to the further development and successful operation of the Global Biodiversity Information Facility (GBIF).

The grant also includes funding to implement online collaboration tools for use by, among others, the TDWG working groups. Enabling such collaboration is intended to increase the productivity of these groups. To carry out these tasks, dedicated staff will be recruited. Also, contracts will be placed to develop documentation and software tools to support the existing TDWG standards.

Also, in March 2005 the Gordon and Betty Moore Foundation funded a USDS 60.000 award to GBIF and the Centro de Referência em Informação Ambiental (CRIA) to undertake a feasibility study for an Amazon Basin Biodiversity Information Facility (ABBIF). As part of this study, collections and individuals in the nine countries that make up the Amazon Basin were contacted as well as those collections in other parts of the world that hold large numbers of Amazon Basin specimens. A questionnaire to gather information about the location and number of specimens held by various collections was widely distributed. The results of this feasibility study, a report on experiences in repatriating Amazonian data to countries of origin, and a proposal on the ABBIF architecture are available at <http://www.cria.org.br/abbif>.

Working collaboratively with GBIF, UNEP-WCMC, Cardiff University and the United States' Geological Survey, Microsoft Research in the United Kingdom has initiated a project called Ark 2010. The project is designed to investigate the development of a software toolkit to support analysis of biodiversity data. This project includes four key areas:

- A Biodiversity Informatics Toolkit (BIT) to support workflows for the analysis of biodiversity data.
- A Biodiversity Informatics Registry (BIR) to store metadata relating to tools and services supporting biodiversity informatics.
- A Latin American (Cloud Forest) Pilot (LAP) to examine the use of biodiversity data and tools in support of conservation of cloud forests, serving as a source of requirements and a demonstration area for the BIT.
- A Circumpolar Biodiversity Monitoring Program (CBMP) pilot to examine the use of biodiversity data and tools in support of monitoring of circumpolar biodiversity, serving as a source of requirements and a demonstration area for the BIT.

Microsoft has provided funds to support a project coordinator working at the GBIF Secretariat for a year starting in November 2005.



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LINKAGES

One activity directly related to building linkages across different data types was a workshop that GBIF sponsored entitled *Building Species Banks: How Shall We Shape the Future?* Fifty attendees from 22 countries spent 2.5 days providing input and discussion about what GBIF might be able to do in this area. The conclusion was that GBIF can be an excellent coordinating body, and that it should function in this area much as it does in coordinating, for example, the Electronic Catalogue of Names of Known Organisms. Additional workshops are planned for the future to flesh out these ideas.

GBIF was represented at the first organisational meeting, in May 2005, of a consortium of important libraries, which has become the Biodiversity Heritage Library (BHL). GBIF and BHL will interact regularly, particularly with regard to the assignment of GUIDs to data objects of mutual interest (taxon concepts, publications, etc.)

GBIF has also been working with other networks in the molecular and ecological disciplines (particularly the Consortium for the Barcode of Life, BioMOBY and ALTER-Net), to pursue the use of common architectures and technologies throughout biodiversity informatics.

Another set of interactions has been with the Institute for Plant Genetic Research (IPGRI). The CGIAR centres are beginning to install the BioCASE provider and sharing data through GBIF-compatible mechanisms.

In addition, GBIF has been added to BioBar, a toolbar for biologists and bioinformatics that is an open-source development by Jawahar Swaminathan of the European Bioinformatics Institute. This toolbar can be added to any Mozilla-based browser, and provides automatic links to all of the public-access sequence databases, and now to GBIF data.

SEED MONEY AWARDS

DIGIT – As part of the process of formulating priorities for the 2005-2006 requests for proposals for the GBIF seed money competitions, a discussion of priorities was carried out through e-conferences. GBIF welcomed the insights of many participants from around the world about what taxonomic groups or regional floras/faunas should be priorities for the GBIF seed money programmes. The two simultaneous e-conferences took place from 25 May through 8 June, 2005.

As a result of the e-conference, the RFP for the DIGIT programme required that the proposals target the digitisation of specimens of one of the following taxa:

- Apoidea in support of the International Pollinators Initiative (IPI),
- Triticeae in an effort to link the GBIF digitisation effort to the international efforts to conserve genetic diversity in this agriculturally important group of grasses,
- Cypriniformes as indicators in support of monitoring biodiversity change in freshwater ecosystems,

or

- Amphibians in support of the Global Species Conservation Assessment for Amphibians.



In addition, GBIF very much wishes to encourage widespread networking of institutions in order to facilitate the development of larger data sets. Thus, proposals were accepted from a regional or international consortia of data providers.

The 2005-2006 DIGIT Seed Money award was made to a consortium led by Dr. David Wake of the University of California at Berkeley, to expand the existing **HerpNET** database, which was originally a US National Science Foundation project for North America, to the global level. HerpNet is a collaborative effort by natural history museums to establish a global network of herpetological collections data that can be used in studying the basis for recent amphibian population declines.

Currently, HerpNet includes 44 institutions from the US, Canada and Mexico, with over 3.7 million amphibian and reptile specimen holdings in total. Twenty providers are currently available for searching on the HerpNet portal, and by Fall 2007, 51 providers will be available HerpNet and GBIF.

The DIGIT seed money award will be used to add seven additional amphibian collections to the existing network:

- Australian Museum, Sydney (AMS);
- Bernice P. Bishop Museum, Hawaii, USA (BPBM);
- Chengdu Institute of Biology, Chinese Academy of Sciences, Chengdu, Sichuan, China (CIB);
- Muséum d'histoire naturelle de la Ville de Genève, Switzerland (MHNG);
- Raffles Museum of Biodiversity Research, Singapore (RM);
- Royal Museum for Central Africa, Tervuren, Belgium (RMCA);
- Staatliches Museum für Naturkunde Stuttgart, Germany (SMNS); and
- Zoological Institute Russian Academy of Sciences, St. Petersburg, Russia (ZIN)

This project will include training in digitisation and geo-referencing, the installation of DiGIR servers and registration with the GBIF network for the partner institutions. On completion the project will add more than 425,000 new amphibian records of which 374,445 specimens will be newly georeferenced. In addition, new HerpNet features funded by this grant that will be available in 2007 include: the ability to search under synonymous taxonomy, expert opinion maps from the Global Amphibian Assessment mapped along with point-locality data, and automatic links to maps from **AmphibiaWeb** species accounts, as well as to HerpNet data providers.

ECAT – The ECAT e-conference discussion led that programme to focus on

- pollinating taxa, with relevance to the International Pollinators Initiative, and
- plant families with relevance to the Global Strategy for Plant Conservation:
 - Asteraceae (Compositae),
 - Malvaceae and
 - Melastomataceae

The Review panel recommended to the GBIF Secretariat to support two of the projects that were subsequently proposed:

A Global Working Checklist of the Compositae [see <http://www.compositae.org>] – This family comprises approximately 10% of the world's angiosperm flora, and contains many species of economic importance as well as many invasive species. This project will integrate and make available substantial nomenclatural and taxon concept data for the estimated 25,000 species (with approximately 75,000 synonyms) of Compositae. The funded consortium includes

- Landcare Research in New Zealand (lead institution),
- International Compositae Alliance (TICA),
- South African National Biodiversity Institute (SANBI),
- Smithsonian Institution,
- Royal Botanic Gardens Kew,
- Missouri Botanical Garden,
- University of Tokyo,
- Berlin Botanic Garden,
- and the Australian National Herbarium.

MelList – The Melastomataceae occur in all tropical biomes, are abundant, ecologically important, and comprise many horticulturally important species. Melastomataceae comprise an estimated 3000 "good" species in the Neotropics, 240 in Africa, 230 on Madagascar, and about 1000 in Asia. Memecylaceae comprise 500 species, most of them in the paleotropics. MelList will be a freely accessible list of the ca. 13,278 names of Melastomataceae (incl. Memecylaceae) with information on recognised species, synonymous names, and literature. Wherever possible, names will be linked to images of specimens to which particular names have been applied (often types). The list will be publicly accessible at Botanische Staatssammlung München's LIAS platform. LIAS is currently serving Global Species Database data on lichenised and non-lichenised ascomycetes to Species 2000 europa. It is set up for on-line data capture and upload of data to Species 2000 and GBIF. The participating taxonomists are leading specialists on Melastomataceae, and MelList will be a pilot for collaborative taxonomic revision, done interactively in real-time by multiple users on a single data base. The cooperating institutions involved include

- Botanische Staatssammlung München (lead),
- California Academy of Sciences,
- Missouri Botanical Garden,
- New York Botanical Garden,
- Universidade Federal do Paraná (herbarium UPCB),
- Instituto de Investigación de Recursos Biológicos Alexander von Humboldt.



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Furthering Participation, Impact and Benefits of GBIF

COLLABORATIONS

During 2005, GBIF continued its collaborations with a number of organisations. Discussions were held with work package1 (data sharing with countries of origin) of the European Network for Biodiversity Information (ENBI) on involving the Council of European Taxonomic Facilities (CETAF) member institutions in data repatriation to countries of origin. There was also active GBIF participation in the ENBI e-conference entitled *Improving European Participation in GBIF*.

Much effort has gone in to making the CBD community very aware of GBIF's work. GBIF has been recognised by the Convention on Biological Diversity as an important contributor to the implementation of its work programme and strategic plan, particularly regarding areas like the Global Taxonomy Initiative(GTI), the Global Strategy for Plant Conservation (GSPC), the 2010 indicators, alien invasive species and the Clearing House Mechanism, as indicated in several SBSTTA recommendations and COP decisions

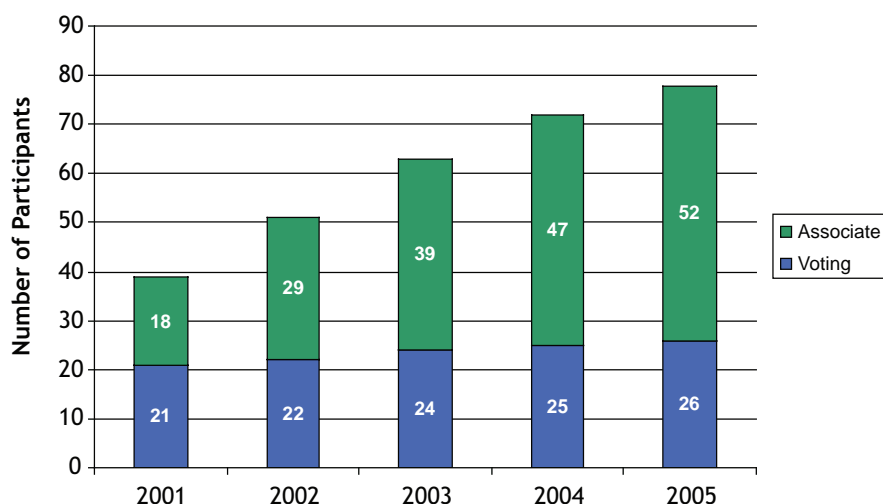
Outreach efforts were also made to other biodiversity-related Conventions, such as the Ramsar Convention (Wetlands). At the last Ramsar COP, GBIF was invited to cooperate with Ramsar. Initial contacts have also been made with the Convention on Migratory Species (CMS) especially in regard to the GROMS database.

Memoranda of Cooperation were signed in 2005 with uBio (a nomenclator database run by the libraries of the Wood's Hole Institute of Marine Biology), and with Index Fungorum (a nomenclator specifically for fungi) that is held by CABI Bioscience.

PARTICIPATION

During 2005, GBIF grew from 71 to 78 Participants. Equatorial Guinea became a Voting Participant, and Cameroon, Guinea and the Philippines became Associate Participants, as did the Consortium for the Barcode of Life, the International Commission on Zoological Nomenclature, and the World Data Center for Biodiversity and Ecology.

GROWTH AF GBIF PARTICIPATION AS OF 31 DEC 2005



VISIBILITY

The results of the Third Year Review were received during 2005, and a major press effort was made surrounding that event (see Box on 3rd year Review under Governing Board Activities). A press release was developed and circulated via the PR Newswire service which distributed the release to all major newswires and to thousands of editorial desks around the world. It was distributed in 13 languages other than English, and was directed specifically at editors and correspondents for *Science*, *Nature*, and other important scientific publications. At the same time, an online Press Room was incorporated into the GBIF Communications Portal.

In June, Dr. Arden Bement, the Director of the United States' National Science Foundation, cited GBIF in a speech he gave at the Global Conference of Environment, Science, Technology and Health Officers at the U.S. Department of State.

[See http://www.nsf.gov/news/speeches/bement/05/alb050622_global.jsp].



GBIF was featured in June, 2005, in a presentation by the Director of the U.S. National Science Foundation, Dr. Arden L. Bement, Jr. Entitled *Global Connections: National Science Foundation International Programs and Activities*, the presentation was made to a Global Conference of Environment, Science, Technology and Health Officers of the U.S. Department of State.

Photo by Meredith A. Lane, © GBIF 2004. Used with permission

GBIF was cited in the 25 October 2005 Editorial in *Science* as a noteworthy example of creative ideas and outcomes that the scientific community is urged to generate, with the goal of achieving principles laid out during the World Summit on the Information Society in December of 2003.

GBIF organised a symposium for the DIVERSITAS Open Conference on Biodiversity Science in Oaxaca, Mexico, in November (see box), and strives to maintain contact with this important organisation. Most notably, GBIF and DIVERSITAS are working together on the GEOSS work packages related to biodiversity.

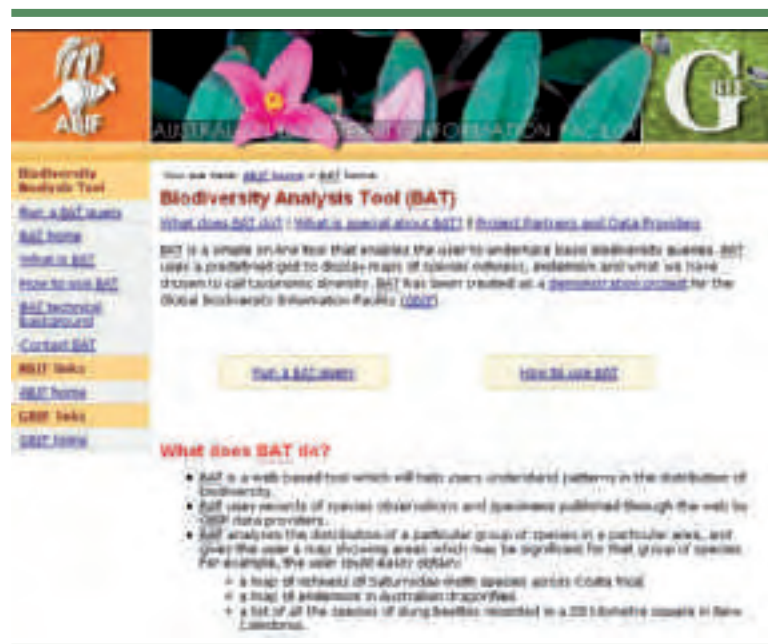
Symposium organized by GBIF for DIVERSITAS

International Conference Integrating Biodiversity Science for Human Well-being, November 2005

Biodiversity informatics: Acquisition, analysis, archiving and applications

- **Vanderlei Canhos:** The speciesLink Network: Practical solutions for integrating, analyzing, synthesizing and visualizing biodiversity information
- **Meredith Lane:** International biodiversity information systems - GBIF
- **Silvio Olivieri:** NGO roles in collection, curation and use of biodiversity information
- **Jorge Soberón:** Assessment of completeness of primary biodiversity data for inventories and estimation of species distribution areas
- **Kevin Thiele:** Electronic dissemination of biodiversity data
- **A. Townsend Peterson:** Biodiversity information and informatics tools permit forecasting complex ecological phenomena
- **Mark J. Costello:** Role of biodiversity informatics in data publication (with marine examples)

During 2005, the Demonstration Projects that were begun during 2004 were presented at GB11. One of these was the Biodiversity Analysis Tool (BAT) project which was developed by a team that included the Australian Department of the Environment and Heritage, in collaboration with the Queensland Museum, CSIRO Division of Entomology, Reference Centre for Environmental Information (CRISA) - Brazil, and CONABIO - Mexico. With BAT, a user can obtain maps for groups of species that are significant because they are endemic and/or are taxonomically diverse in a given area. BAT is now running and available on the website of Australia-GBIF, or ABIF.



Homepage for the Biodiversity Analysis Tool (BAT):
<http://www.deh.gov.au/biodiversity/abif/bat>

The other project, called the "Species Population Loss Meter" was a collaboration among CONABIO and the Universidad Nacional Autonoma de Mexico, and the University of Kansas. This project was aimed at demonstrating the feasibility of actually estimating the rate of disappearance of species' populations by estimating distribution areas of species associated with primary vegetation on the basis of primary biodiversity data as obtained from GBIF, measuring the rates of loss of primary vegetation using satellite remote sensing, and overlapping the two kinds of maps.

A call was issued in 2005 for new projects to be completed during 2006, and two were selected. [See <http://www.gbif.org/Stories/STORY1137509545>].



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Claudia Szumik and Pablo Goloboff
Photo © Larry Speers 2005.
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The 2005 Ebbe Nielsen Prize

The fourth Ebbe Nielsen Prize of the Global Biodiversity Information Facility (GBIF) was presented to Dr. Pablo Goloboff in Brussels on 18 April 2005 at a special ceremony following GBIF's annual Science Symposium.

Working with his wife, biologist Claudia Szumik, Dr. Goloboff develops computer algorithms that identify so-called areas of endemism - places that are home to many species that exist nowhere else. The programs designed by Dr. Goloboff analyse the kind of data that GBIF makes available - information about where all the world's species are found.

"Pablo is an especially good choice because Ebbe Nielsen was himself particularly interested in areas of endemism and how they might contribute to conservation and the understanding of biodiversity," said Dr. Joel Cracraft of the American Museum of Natural History. "Pablo's methodological contributions allow us to take advantage of new data and significantly refine our understanding of endemism."

Dr. Goloboff's computer program is an open source development, meaning it is freely available for anyone to use or modify. It is capable of analysing very large amounts of data and focusing on endemism on a more detailed geographical scale than had ever before been possible.

Dr. Goloboff is a scientist who works for Argentina's Consejo Nacional de Investigaciones Científicas y Técnicas. Regarding his work, Dr. Goloboff said "the value of computer programs is in enabling researchers to apply specific sets of criteria to complex and difficult problems."

The GBIF Science Committee, which selected Dr. Goloboff from among a number of nominations, noted: "His work is very solid from several perspectives, namely, mathematics, biology (theoretical and pragmatic aspects) and the development of algorithms."

Third Annual GBIF Science Symposium

Tropical Biodiversity: Science, Data, Conservation

The third GBIF Science Symposium was organised in conjunction with the Belgian hosts of the April Governing Board meeting.

The GBIF-sponsored speakers and their topics were

- **Brij Gopal** (Jawaharlal Nehru University - School of Environmental Science, New Delhi, India) spoke on "Conserving Aquatic Biodiversity in the Tropics: The Needs for a Strong Foundation with Databases and Information Networks"
- **Silvio Olivieri** (Vice President, Conservation Knowledge and Software Architecture, Center for Applied Biodiversity Science, Conservation International headquarters, Washington DC, USA) addressed "On-line access to conservation data: challenges and opportunities"
- **Peter Raven** (Director, Missouri botanical garden, St Louis, MO, USA) presented "What Should We Try to Learn About Tropical Biodiversity, and How Can We Use That Knowledge for Conservation?"



Training and Capacity Building in Biodiversity Informatics

DATA PROVIDER TRAINING

GBIF provided two workshops on data provision in 2005, one in conjunction with the TDWG annual meeting in St. Petersburg, Russia and the other collaboratively with GBIF-Argentina and GBIF-Spain in La Plata, Argentina. In all, there were 19 participants from 8 countries that were involved in these two workshops.

DATA USER TRAINING

New approaches to training directed only toward GBIF members started in 2005 and focused on data uses and building of predictive models for decision-making.

Biodiversity data modeling is proving to be a very valuable tool for decision-making in many fields. This in turn generates broader opportunities and scenarios under which biodiversity data can be used.

The development of new analytical tools has opened new avenues for use of primary biodiversity data including predicting impacts of global climate change on biodiversity, assessing the potential geographic expansion of alien invasive species, tracking the spread of diseases and risk of disease transmission, identifying suitable places for establishing protected areas to assess the likelihood of finding rare/endemic species, etc. Biodiversity modeling uses primary species occurrence data, such as that served by the GBIF Data Portal, and relates it to other types of data (e.g. ecological, geographic, environmental, climatic, etc).

Together with the hosting institutions, CONABIO in Mexico and the University of Kansas in the United States, GBIF offered two Ecological Niche Modeling workshops. The first of the two workshops, held in April in Mexico City, was attended by 24 persons representing 21 GBIF Participants. The second, held in December in Lawrence, Kansas, was attended by 20 persons representing 17 GBIF Participants.

DEVELOPMENT OF BIODIVERSITY INFORMATICS COURSES

GBIF Secretariat staff worked with the faculty of the International School of Biodiversity Studies (ISOBIS), a consortium among several Danish universities, to develop a summer course on biodiversity informatics that will be offered for the first time in the summer of 2006.

Governing Board Activities

GB10

Governing Board delegates and observers were welcomed to Belgium on behalf of the Ministry for Economy, Energy, Foreign Trade and Science Policy by Ms. Nicole Henry from the Belgian Federal Science Policy Office.

For an introduction to an in depth discussion of the 3rd Year Review report (see Box), the meeting listened to a video-taped message from the Chair of the Review Committee, Marvalee Wake, who was unable to attend. Following comprehensive presentations by the Review Team on the respective parts of the report, the meeting considered in detail separately their recommendations on mega-science aspects, outreach issues and user survey, organisational structure and legal basis, as well as funding of GBIF and additional investments by participants. Following an extended discussion, the Governing Board accepted the 3rd Year Review report as meeting all the required objectives.

In line with the revised GB9 document "GBIF Review - Next Steps" approved inter-sessionally by the Governing Board, a Review Response Team (RRT) was officially constituted, which consists of the members of the current Executive Committee, the chair of the ad hoc group on Rules of Procedure, and the two elected representatives from the Associate Participants.



GB10 was attended by 50 delegations representing 32 countries and economies (Argentina, Australia, Belgium, Cameroon, Canada, Costa Rica, Czech Republic, Denmark, Equatorial Guinea, Estonia, Finland, France, Germany, Ghana, Guinea, India, Japan, Republic of Korea, Mexico, Netherlands, New Zealand, Norway, Pakistan, Peru, Poland, Slovenia, South Africa, Spain, Sweden, Taiwan, United Kingdom, U.S.A.), the European Commission, and 17 international organisations (BioNET-INTERNATIONAL, BGCI, CBOL, ETI, Finding Species, IABIN, ITIS, NatureServe, Nordic Gene Bank, OBIS, PBIF, Species 2000, TDWG, UNESCO-MAB, UNEP-WCMC, WDCBE, WFCC). A representative from Greece and members of the Review Team for the 3rd Year Review took part as observers to the meeting.

Photo © Yves Nevens 2005. Used with permission



GB11

The meeting took place from 11th to 13th October, 2005 at the Clarion Hotel in Stockholm, Sweden. Governing Board delegates and observers to the meeting were welcomed on behalf of the Swedish Research Council by Lars Nilsson, Head of the Swedish delegation.

The meeting elected by super-majority the following individuals as Governing Board officers for the respective positions, each for a 2 year term:

- David Penman as Governing Board Chair
- Hideaki Sugawara as Governing Board Vice-Chair
- Lars Nilsson as Budget Committee Chair
- Helmut Kuehr and Peter Schalk as Budget Committee Vice-Chairs
- Wouter Los as Science Committee Chair
- Daphne Fautin and Jorge Soberon as Science Committee Vice-Chairs
- Stan Blum as Chair of the Science Sub-Committee for Database Access and Database Interoperability (DADI)
- Walter Berendsohn as Chair of the Science Sub-Committee for Digitisation of Natural History Collections (DIGIT)
- Christopher Lyal as Chair of the Science Sub-Committee for the Electronic Catalogue of Names of Known Organisms (ECAT); and
- Vishwas Chavan as Chair of the Science Sub-Committee for Outreach & Capacity Building (OCB).

As no super majority vote could be reached for the position of the second Vice-Chair of the Governing Board, the Governing Board agreed to fill that position by inter-sessional voting.

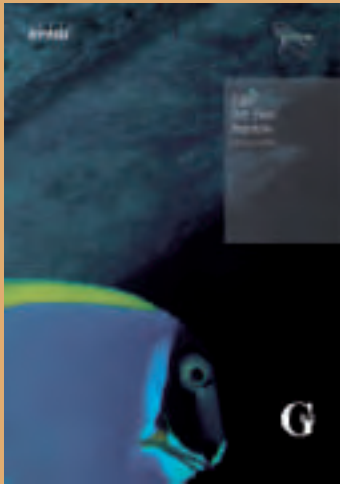
Following an introduction by the Chair of the Review Response Team (RRT), the GB discussed a new draft GBIF Strategic Plan for the period 2007 - 2011, a document outlining options for securing the funding for GBIF from 2007 - 2011, a document on the future governance structure of GBIF, and a revised draft text for a renewed MOU for the period 1st January 2007 - 31st December 2011. The meeting welcomed the documents presented on behalf of the RRT, and all participants expressed their intent to continue supporting GBIF for the phase 2007 - 2011. Participants recognised the overall need for a budget increase for the next phase of GBIF.



GB 11 was attended by 41 delegations representing 27 countries and economies (Australia, Austria, Belgium, Canada, Costa Rica, Denmark, Finland, France, Germany, Iceland, Japan, Republic of Korea, Mexico, Netherlands, New Zealand, Norway, Peru, Philippines, Poland, Portugal, Slovakia, South Africa, Spain, Sweden, Taiwan, United Kingdom, U.S.A.), the Secretariat of the Convention on Biological Diversity (CBD), the European Commission (EC), and 12 international organisations (BioNET-INTERNATIONAL, CBOL, ETI, IABIN, ITIS, Nordic Gene Bank, OBIS, PBI, Species 2000, UNEP-WCMC, WDCBE, WFCC). Representatives from Brazil, Italy, Jamaica, Lithuania, and Ukraine took part as observers to the meeting.

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The GBIF Third Year Review

“In the third year, an independent review of [GBIF’s] operations, financial mechanisms, legal basis, governance structure, and links to other organisations will be conducted to determine if any changes are needed. The lessons learned will be used to evaluate the effectiveness of the governance structure and to recommend any necessary changes.” (GBIF MoU, Paragraph 11.2)

As of 2004, GBIF was in its third financial year, and the independent review process called for by the MoU was underway. Overseen by a partnership between CODATA and the international advisory group KPMG, the Steering Committee for the review included Paul Uhlir (representing CODATA), and two representatives from KPMG, Kjeld Christiansen and Thomas Riisom.

Six individuals who are highly respected and knowledgeable about the subject matter and intent of GBIF, but who are not presently involved in GBIF, were selected by the Steering Committee to serve as the Review Committee. These persons were:

- Marvalee Wake (University of California, Berkeley, USA), Chair
- Motonori Hoshi (Keio University, Japan),
- Tim Littlejohn (IBM Asia Pacific, Australia),
- Ghilleen Prance (retired Director, Royal Botanical Garden, Kew, UK),
- Jameson Seyani (The Commonwealth Secretariat, Malawi), and
- Peter Mann de Toledo (Director, Museu Paraense Emílio Goeldi, Brasil).

The Report of the Review Team (Steering Committee + ad hoc Review Committee) was based on personal interviews of 65 persons by the Review Team, an Expert Survey that was sent to 393 people (72 responded), a Governing Board and Committees Survey sent to 207 people (87 responded fully, and 50 responded partially) and a Web-based questionnaire that ran August - December 2004, to which 81 responses were received.

The review praised the Global Biodiversity Information Facility (GBIF) as an essential mine of dynamic information about the species of life on earth, with the potential to return even greater value in the future.

“The report says that GBIF is a worldwide project that has made important progress in promoting public access to biodiversity data. It is an essential step forward in global biodiversity and ecological research and applications,” said Dr. Marvalee Wake who chaired the review. Noting that the report calls GBIF “the right initiative at the right time with the right goals,” Dr. Wake also said “the report emphasises that environmental and science policy makers need to understand that GBIF can return enormous value to them.”

The Governing Board constituted a Review Response Team to map out mechanisms whereby the recommendations of the report could be implemented.

Grants Received

GORDON AND BETTY MOORE FOUNDATION

In May, the Taxonomic Databases Working Group (TDWG) and GBIF were awarded nearly USD 1.5 million to conduct a project designed to establish a more formal process for development and maintenance of each of the TDWG standards that are so important to the further development and successful operation of GBIF. The grant also includes funding to implement online collaboration tools for use by, among others, the TDWG working groups. Also, contracts will be placed to develop documentation and software tools to support the existing TDWG standards.

Further, GBIF undertook, in partnership with the Centro de Referência em Informação Ambiental (CRIA), a study of the feasibility of establishing an Amazon Basin Biodiversity Information Facility. This study was also funded by the Gordon and Betty Moore Foundation.

MICROSOFT RESEARCH UK

In conjunction with partners at the University of Cardiff, UNEP-WCMC, and USGS-NBII, GBIF is carrying out a project to utilise work-flow software and schemas to facilitate biodiversity analysis of GBIF data. The project, called Ark2010, is being funded by Microsoft Research UK.

DANISH NATURAL SCIENCE RESEARCH COUNCIL

To compensate for budgetary losses because of changes in currency exchange rates, the Danish Natural Science Research Council provided a grant of DKK 500 000 in December 2004. The GBIF Governing Board decided to commit these funds to support the position of Nodes Liaison Officer for 2005 - 2006.



Photo by Meredith Lane, © GBIF 2004
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Financial Statement

SUMMARY FINANCIAL REPORT 2005 IN DKK AND USD

GBIF Basic Funds	DKK	USD	Average exchange rate
Income	<u>22,888,435</u>	<u>3,816,838</u>	599,67
Expenditure			
Staff expenditure	-10,180,041	-1,697,607	
Running expenditure	-1,936,468	-322,922	
Secretarial facilities	-600,965	-100,216	
Work programme and Ebbe Nielsen Prize	-9,312,394	-1,552,920	
Expenses of the Governing Board	-527,863	-88,026	
Individual projects not completed 2004	-939,956	-156,745	
Third year review	-546,840	-91,190	
Follow up third year review	-378,298	-63,084	
Total expenditure	<u>-24,422,825</u>	<u>-4,072,710</u>	599,67
Changes in foreign exchanges rates	651,934	108,715	
Exchange rate differences rising from converting			
Financial report from DKK to USD		-104,515	
	<u>651,934</u>	<u>7,618</u>	Year end exchange rate
Retained funds	<u>-882,456</u>	<u>-251,672</u>	
Assets			
Other receivables	278,948	44,109	
Cash at bank	17,604,846	2,783,771	
Total assets	<u>17,883,794</u>	<u>2,827,880</u>	632,41
Retained funds and liabilities			
Retained funds	3,644,458	576,281	
Value adjustments forward contracts	0	0	
Provisions (Approved seed money)	6,352,939	1,004,560	
Liabilities other than provisions	<u>7,886,397</u>	<u>1,247,039</u>	
Total equity and liabilities	<u>17,883,794</u>	<u>2,827,880</u>	632,41
GBIF Supplementary Fund			
Balance at 1 January	793,166	145,067	546,76
Income	4,897,735	774,456	632,41
Interest income transferred to Supplementary Fund	395,885	62,599	
Expenditure	-1,549,438	-245,005	
Transferred to work programme (NLO overspent)	177,343	28,042	
Exchange rate differences	0	-19,647	
	<u>4,714,691</u>	<u>745,512</u>	632,41

Basic Financial Contributions 2005

VOTING PARTICIPANTS FINANCIAL CONTRIBUTORS

Australia:	CSIRO Entomology
Belgium:	Belgian Federal Science Office
Canada:	Canadian Museum of Nature
Costa Rica:	InBio, National Biodiversity Institut
Denmark:	The Danish Natural Science Research Council
Estonia:	Ministry of Environment
Finland:	Academy of Finland
France:	INRA, Ministry of Higher Education and Research
Germany:	German Aerospace Center
Iceland:	Ministry for the Environment
Japan:	Japan Science and Technology Agency
Mexico:	Commision for the Knowledge and Use of Biodiversity
Netherlands:	Ministry of Education, Culture and Science
New Zealand:	Ministry of Research Science
Norway:	The Research Council of Norway
Peru:	Institution of Investigation to the Amazon
Portugal:	Ministry of Science, Technology and Higher Education
Republic of Korea:	Ministry of Science and Technology
Slovenia:	Ministry of Education, Science and Sport
South Africa:	Department of Science and Technology
Spain:	Ministry of Education and Culture
Sweden:	Swedish Research Council
United Kingdom:	Royal Botanic Gardens, Kew BBSRC Polaris House, Swindon NERC Polaris House, Swindon Department for Environment, Food and Rural Affairs (DEFRA)
USA:	National Science Foundation



Annex 1: GBIF Participants as of 31st December 2005

VOTING PARTICIPANTS

Australia	Feb 2001	Mexico	Mar 2001
Belgium	Feb 2001	Netherlands	Feb 2001
Canada	Mar 2001	New Zealand	Feb 2001
Costa Rica	May 2001	Nicaragua	Jun 2001
Denmark	Jan 2001	Norway	Mar 2004
Equatorial Guinea	Mar 2005	Peru	Sep 2002
Estonia	Sep 2003	Portugal	Jun 2001
Finland	Apr 2001	Slovenia	Feb 2001
France	Mar 2001	South Africa	May 2003
Germany	Feb 2001	Spain	Feb 2001
Iceland	Jun 2001	Sweden	Feb 2001
Japan	Feb 2001	United Kingdom	Aug 2001
Korea, Republic of	May 2001	United States of America	Jan 2001



Map courtesy of World66.com

ASSOCIATE PARTICIPANTS: COUNTRIES / ECONOMIES

Argentina	Mar 2002	Madagascar	Jan 2003
Austria	Sep 2001	Morocco	Jun 2003
Benin	Dec 2004	Pakistan	Aug 2001
Bulgaria	Aug 2001	Papua New Guinea	Mar 2004
Cameroon	Mar 2005	Philippines	Mar 2005
Colombia	Sep 2003	Poland	Mar 2001
Czech Republic	Oct 2002	Slovak Republic	Aug 2001
Ghana	Mar 2001	Switzerland	Feb 2001
Guinea	Mar 2005	Taiwan (Economy)	Mar 2001
India	Aug 2003	Tanzania	Sep 2002
Indonesia	Nov 2004		

ASSOCIATE PARTICIPANTS: ORGANISATIONS

ASEAN Regional Centre for Biodiversity Conservation	Dec 2003
ASEANET	Oct 2002
BIOSIS	Mar 2002
BioNET-INTERNATIONAL	May 2001
Botanic Gardens Conservation International	Aug 2004
CABI Bioscience	Sep 2001
Consortium for the Barcode of Life	Mar 2005
EASIANET	Oct 2002
European Commission	Feb 2001
Expert Center for Taxonomic Identification	Mar 2001
Finding Species	Dec 2003
Freshwater Biological Association - FreshwaterLife	Oct 2003
IUCN	Sep 2003
Integrated Taxonomic Information System	Mar 2001
Inter-American Biodiversity Information Network	May 2001
International Centre for Insect Physiology and Ecology	Mar 2004
International Commission on Zoological Nomenclature	Jun 2005
Natural Science Collections Alliance	Dec 2004
NatureServe	May 2001
Nordic Gene Bank	Mar 2004
Ocean Biogeographic Information System	Jun 2001
Pacific Biodiversity Information Forum	Sep 2004
SAFRINET	Aug 2003
Société de Bactériologie Systématique et Vétérinaire	Dec 2002
Species 2000	Mar 2001
Taxonomic Databases Working Group	Mar 2002
United Nations Educational Scientific and Cultural Organisation, Man and the Biosphere Programme	May 2001
United Nations Environment Programme	May 2001
Wildscreen Trust	Jan 2003
World Data Center for Biodiversity and Ecology	Apr 2005
World Federation for Culture Collections	Oct 2002



Annex 2: GBIF Secretariat Staff

James L. Edwards, Director
Per de Place Bjørn, Programme Officer
Electronic Catalogue of the Names of Known Organisms
Donald Hobern, Senior Programme Officer
Data Access and Database Interoperability
Larry Speers, Senior Programme Officer
Digitisation of Natural History Collections
Beatriz Torres, Senior Programme Officer
Outreach and Capacity Building
Francisco Pando, Nodes Liaison Officer
Meredith A. Lane, Public Relations & Scientific Liaison
Hannu Saarenmaa, Deputy Director for Informatics
Ciprian Vizitiu, Webmaster & Network Administrator
Giorgos Ksouris, Software Engineer
Hugo von Linstow, Deputy Director for Management & International Relations
Anne Mette Nielsen, Secretary
Susanne Lønstrup Sheldon, Senior Secretary
Belinda Skeel, Secretary (Dec - maternity leave)
Brian Kjaer Christiansen, Secretary (Sep - Dec - temporary replacement)
Else Østergaard Andersen, Liaison Officer (employed by University of Copenhagen)

Annex 3: GBIF Governing Board Standing Committees

BUDGET COMMITTEE

Chair	David Penman
Vice Chairs	Shun-ichi Kikuchi Lars M. Nilsson
Members	Bonnie C. Carroll Helmut Kühn Peter Pedlar Esteban Manrique Reol
Ex-officio	Christoph Häuser James Edwards

EXECUTIVE COMMITTEE

Chair	Christoph Häuser
Vice Chair	Kunio Iwatsuki
Committee	Wouter Los (Science)
Chairs	David Penman (Budget) Lawrence Way (NODES)
Ex-officio	James Edwards

NODE MANAGERS COMMITTEE (NODES)

Chair	Lawrence Way
Vice Chair	Maria Auxiliadora Mora Elizabeth Watson
Members	All Participant Node Managers

SCIENCE COMMITTEE

Chair	Wouter Los
Vice Chairs	Ian Cresswell Jorge Soberón Mainero
Subcommittee	Stan Blum (DADI)
Chairs	Simon Tillier (DIGIT) Chris Lyal (ECAT) Erick Mata (OCB)
Ex-officio	Christoph Häuser Kunio Iwatsuki James Edwards



SUBCOMMITTEE FOR DATA ACCESS AND DATABASE INTEROPERABILITY (DADI)

Chair	Stan Blum	
Members	Walter G. Berendsohn	Derek Munro
	Renato De Giovanni	Sylvia Spengler
	Markus Döring	William Ulate
	Mickael Graf	David A. Vieglaiss
	William Alex Gray	Greg Whitbread
	Sally Hinchcliffe	John Wieczorek
	Patricia Mergen	Nozomi Ytow

SUBCOMMITTEE FOR DIGITISATION OF NATURAL HISTORY COLLECTION DATA (DIGIT)

Chair	Simon Tillier	
Vice Chair	Vanderlei Canhos	
Members	Gerald Guala	Steven Shattuck
	Anton Güntsch	Anders Tehler
	Mervyn Mansell	Tuuli Toivonen
	Keiichi Matsuura	Tomi Trilar
	Francisco Pando	Anna Weitzman
	A. Townsend Peterson	

SUBCOMMITTEE FOR ELECTONIC CATALOGUE OF NAMES OF KNOWN ORGANISMS (ECAT)

Chair	Chris Lyal	
Members	Miguel A. Alonso-Zarazaga	Alan Paton
	Jerry Cooper	David Remsen
	Henrik Enghoff	Michael Ruggiero
	Gregor Hagedorn	Junko Shimura
	Paul M. Kirk	Karen Wilson
	Scott Miller	

SUBCOMMITTEE FOR OUTREACH AND CAPACITY BUILDING (OCB)

Chair	Erick Mata	
Members	Salvatore Arico	Horst Freiberg
	Tidane Ba	Carlos Martinez Riera
	Bonnie C. Carroll	Lucie Rogo
	Vishwas Chavan	Peter Schalk
	Dedy Darnaedi	Stella Simiyu
		Richard D. Smith

ANNEX 4: GBIF Specimen/Observation Data Sharers and Providers as of 31st December 2005

During 2005, data were made available to the GBIF network by 150 Data Providers who were serving data from over 400 databases. These Data Providers and the collections which were sharing data represented 36 GBIF Participants and were located in 31 countries.

GBIF Participant	Data Provider	Data Sharer	Records Shared
Argentina	CRICYT - CONICET	Colección Entomológica IADIZA	2,010
Argentina	CRICYT - CONICET	Colección Herpetológica - MMHNRS	1,071
Argentina	CRICYT - CONICET	Colección Herpetológica IADIZA	233
Argentina	Museo Argentino de Ciencias Naturales Bernardino Rivadavia	Colección Nacional de Aracnología	6,438
Argentina	Museo Argentino de Ciencias Naturales Bernardino Rivadavia	Colección Nacional de Foraminíferos del Museo Argentino de Ciencias Naturales	13,257
Argentina	Museo Argentino de Ciencias Naturales Bernardino Rivadavia	Colección Nacional de Invertebrados	20,597
Argentina	CRICYT - CONICET	Colección Ornitológica IADIZA	678
Argentina	Centro de Ecología Aplicada	Colección Paleontológica	7,251
Argentina	Centro Nacional Patagonico - CONICET	Colección Paleontológica Invertebrados e Icnología - CONICET- Argentina	190
Argentina	Centro Nacional Patagonico - CONICET	Endocast Collection - CONICET- Argentina	144
Argentina	Centro Nacional Patagonico - CONICET	Extra-andean Patagonian Herbarium - CONICET- Argentina	899
Argentina	Fundacion Miguel Lillo Provider	Fundacion Miguel Lillo Provider	49,932
Argentina	Centro Nacional Patagonico - CONICET	Ichthyology Collection - CONICET- Argentina	1,494
Argentina	Centro Nacional Patagonico - CONICET	Marine Mammals -CONICET - Argentina	662
Argentina	Facultad de Ciencias Naturales y Museo - U.N.L.P.	Museo de La Plata	19,419
Australia	Australian Antarctic Data Centre	Antarctic Marine Protists species checklist	563
Australia	Australian Antarctic Data Centre	ARGOS Satellite Tracking of animals	8,073
Australia	Australian Antarctic Data Centre	Australian Antarctic Division Herbarium	10,204
Australia	Australian Biological Resources Study	Australian Faunal Directory	65,509
Australia	Australian National Herbarium (CANB)	Australian National Herbarium (CANB)	696,716
Australia	Australian National Insect Collection, CSIRO Entomology	Australian National Insect Collection	153,343



GBIF Participant	Data Provider	Data Sharer	Records Shared
Australia	Australian National Insect Collection, CSIRO Entomology	Australian National Insect Collection Gerromorpha Dataset	3,594
Australia	Australian National Insect Collection, CSIRO Entomology	Australian National Insect Collection Nepomorpha Dataset	3,261
Australia	Australian National Insect Collection, CSIRO Entomology	Australian National Insect Collection Sternorrhyncha Dataset	589
Australia	Australian Biological Resources Study	Dung Beetles	4,442
Australia	Australian Antarctic Data Centre	Elephant Seal Sightings, Heard Island	1,794
Australia	Australian Antarctic Data Centre	Elephant Seal Sightings, Macquarie Island	210,879
Australia	Australian Biological Resources Study	Land Molluscs	100,006
Australia	National Herbarium of New South Wales	NSW herbarium collection	0
Australia	OZCAM (Online Zoological Collections of Australian Museums) Provider	Online Zoological Collections of Australian Museums	852,446
Australia	Australian Antarctic Data Centre	Seabirds of the Southern and South Indian Ocean	105,863
Australia	Australian Antarctic Data Centre	Weddell Seal census, Vestfold Hills, Antarctica	4,603
Australia	Australian Antarctic Data Centre	Weddell Seal Sightings, Vestfold Hills, Antarctica	17,588
Australia	Australian Antarctic Data Centre	Whale catches in the Southern Ocean	7,122
Austria	Biologiezentrum der Oberoesterreichischen Landesmuseen	Biologiezentrum der Oberoesterreichischen Landesmuseen	1,888,259
Austria	Haus der Natur Salzburg	Haus der Natur Salzburg	7,773
Austria	inatura - Erlebnis Naturschau Dornbirn	inatura - Erlebnis Naturschau Dornbirn	9,349
Austria	Karl Franzens University of Graz, Institute for Botany - Herbarium GZU	Karl Franzens University of Graz, Institute for Botany - Herbarium GZU	1,542
Austria	Natural History Museum, Vienna - Herbarium W	Natural History Museum, Vienna - Herbarium W	7,833
Austria	Österreichische Mykologische Gesellschaft	Österreichische Mykologische Gesellschaft	1,816
Austria	Steiermärkisches Landesmuseum Joanneum - Herbarium GJO	Steiermärkisches Landesmuseum Joanneum - Herbarium GJO	204
Austria	Tiroler Landesmuseum Ferdinandeum	Tiroler Landesmuseum Ferdinandeum	47,133
Austria	University of Vienna, Institute for Botany - Herbarium WU	University of Vienna, Institute for Botany - Herbarium WU	40,455
Austria	University of Vienna, Institute for Botany, Research Group for Plant Biogeography	University of Vienna, Institute for Botany, Research Group for Plant Biogeography	22,817

GBIF Participant	Data Provider	Data Sharer	Records Shared
Belgium	BeBIF Provider	BCCM/IHEM - Biomedical Fungi and Yeasts Collection	4,580
Belgium	BeBIF Provider	BCCM/LMG - Laboratory of Microbiology Gent Bacteria Collection	12,155
Belgium	BeBIF Provider	BCCM/MUCL - (Agro)Industrial Fungi and Yeasts Collection	11,781
Belgium	BeBIF Provider	BeBIF Provider	0
Belgium	BeBIF Provider	BeBIF Provider	0
Belgium	BeBIF Provider	BeBIF Provider	0
Belgium	BeBIF Provider	BeBIF Provider	0
Belgium	BeBIF Provider	ENBI WP 13 Martius C. F. P. von Collection subset (Muenchen)	1,350
Belgium	Marine Biology Section Ugent	Generic Taxonomic Database System on Mysida and Nematoda	14,728
Belgium	BeBIF Provider	Herbarium of the Ghent University (Herbarium Gandavensis), partim Mycology, collection: Lactarius sect. Deliciosi	255
Belgium	BeBIF Provider	National Botanic Garden Belgium - Albertian Rift Rubiaceae (ENBI wp13)	2,643
Belgium	BeBIF Provider	National Botanic Garden Belgium - Martius	330
Belgium	BeBIF Provider	National Botanic Garden Belgium - Myxomycetes	935
Belgium	BeBIF Provider	Royal Museum of Central Africa - Albertian Rift Birds (ENBI wp13)	43,443
Belgium	BeBIF Provider	Royal Museum of Central Africa - Albertian Rift Butterflies (ENBI wp13)	25,128
Belgium	BeBIF Provider	Royal Museum of Central Africa - Albertian Rift Cichlids (ENBI wp13)	37,986
Belgium	BeBIF Provider	Royal Museum of Central Africa - Metafro-Infosys - Prelude	1,506
Belgium	BeBIF Provider	Royal Museum of Central Africa - Metafro-Infosys - Xylarium	10,189
Belgium	BeBIF Provider	Royal Museum of Central Africa - True Fruit Flies (Diptera, Tephritidae) of the Afrotropical Region (ENBI wp13)	6,327
Belgium	BeBIF Provider	University of Ghent - Zoology Museum - Invertebratacollectie	3,145
Belgium	BeBIF Provider	University of Ghent - Zoology Museum - Nematodencollectie	407
Belgium	BeBIF Provider	University of Ghent - Zoology Museum - Vertebratacollectie	4,155
CABI Bioscience	CABI Bioscience UK Centre	British Fungi Database	0
CABI Bioscience	CABI Bioscience UK Centre	CABI Bioscience Fungus Collection	278,615
CABI Bioscience	CABI Bioscience UK Centre	CABI Bioscience Genetic Resource Collection	24,958



GBIF Participant	Data Provider	Data Sharer	Records Shared
CABI Bioscience	CABI Bioscience UK Centre	CABI Bioscience Nematode Collection	819
Canada	Canadian Biodiversity Information Facility	Agriculture and Agri-Food Canada, Fredericton Collection	73
Canada	Canadian Biodiversity Information Facility	Agriculture and Agri-Food Canada, Saskatoon	372
Canada	Canadian Biodiversity Information Facility	Agriculture and Agri-Food Canada, St. John's, Newfoundland	1,678
Canada	Canadian Biodiversity Information Facility	Alan Wormington Collection	591
Canada	Canadian Biodiversity Information Facility	Atlantic Forestry Centre Insect Reference Collection	292
Canada	Bird Studies Canada	BC Coastal Waterbird Survey	33,957
Canada	Royal Ontario Museum	Bird specimens	166,999
Canada	Canadian Biodiversity Information Facility	Bombus of Canada	16,091
Canada	Canadian Biodiversity Information Facility	Brassicaceae of Canada	17,061
Canada	Canadian Biodiversity Information Facility	Butterflies and Skippers of Alberta Project	2,044
Canada	Canadian Arachnologist Nearctic Spider Database	Canadian Arachnologist Nearctic Spider Database	17,431
Canada	Bird Studies Canada	Canadian Lakes Loon Survey	15,883
Canada	Canadian Museum of Nature	Canadian Museum of Nature Amphibian and Reptile Collection - Anura	14,169
Canada	Canadian Museum of Nature	Canadian Museum of Nature Bird Collection	84,162
Canada	Canadian Museum of Nature	Canadian Museum of Nature Fish Collection	40,801
Canada	Canadian Museum of Nature	Canadian Museum of Nature Mollusc Collection - Unionoida	3,022
Canada	Canadian Biodiversity Information Facility	Canadian National Collection (CNC) of Insects, Arachnids and Nematodes	44,546
Canada	Canadian Biodiversity Information Facility	Canadian National Collection of Insects	6,323
Canada	Canadian Biodiversity Information Facility	Crispin S. Guppy Collection	11,940
Canada	Canadian Biodiversity Information Facility	Crispin S. Guppy Observational Records	37
Canada	Canadian Biodiversity Information Facility	DAO Herbarium Type Specimens	5,241
Canada	Canadian Biodiversity Information Facility	Donald F. Hooper Butterfly collection, Canada	210
Canada	Canadian Biodiversity Information Facility	E.C. Manning Park Collection	84
Canada	University of Alberta Museums	entomology	27,250
Canada	Royal Ontario Museum	Fish specimens	106,640
Canada	University of Alberta Museums	Freshwater Invertebrate Collection	4,525
Canada	Canadian Biodiversity Information Facility	Gerald Hilchie Collection	599

GBIF Participant	Data Provider	Data Sharer	Records Shared
Canada	Canadian Biodiversity Information Facility	Great Lakes Forestry Centre Insect Collection	368
Canada	Royal Ontario Museum	Herp specimens	38,969
Canada	Canadian Biodiversity Information Facility	Jeff Ogden Collection	54
Canada	Canadian Biodiversity Information Facility	Lepidopterists' Society Season Summaries 1973-1997	4,641
Canada	Canadian Biodiversity Information Facility	Lyman Entomological Museum	6,987
Canada	Canadian Biodiversity Information Facility	M. Gollop Collection	1,513
Canada	Royal Ontario Museum	Mammal counts by taxonomy and geography	0
Canada	Royal Ontario Museum	Mammal specimens	90,872
Canada	Canadian Biodiversity Information Facility	Manitoba Museum of Man and Nature	29,477
Canada	Bird Studies Canada	Marsh Monitoring Program - Amphibians	25,526
Canada	Bird Studies Canada	Marsh Monitoring Program - Birds	73,865
Canada	Canadian Biodiversity Information Facility	McMaster University Collection	546
Canada	Canadian Biodiversity Information Facility	Memorial University Botanical Garden Collection	5
Canada	Canadian Biodiversity Information Facility	Memorial University Department of Biology Collection	243
Canada	University of Alberta Museums	Museum of Zoology, Amphibian and Reptile Collection	3,783
Canada	New Brunswick Museum	NBM_insects	1,046
Canada	New Brunswick Museum	NBM_Unionoids	1,225
Canada	Canadian Biodiversity Information Facility	New Brunswick Museum Collection	1,614
Canada	Canadian Biodiversity Information Facility	Norbert Kondla Collection	10,760
Canada	Canadian Biodiversity Information Facility	North West Territories and Nunavut Bird Checklist, Canada	48,566
Canada	Canadian Biodiversity Information Facility	Northern Forestry Centre Arthropod Collection, Edmonton	362
Canada	Canadian Biodiversity Information Facility	Nova Scotia Department of Natural Resources, Subenacadie, NS, Canada	321
Canada	Canadian Biodiversity Information Facility	Nova Scotia Museum of Natural History, Halifax, NS, Canada	3,420
Canada	Bird Studies Canada	Ontario Breeding Bird Atlas 1981-1985	408,413
Canada	Bird Studies Canada	Ontario Breeding Bird Atlas 2001-2005	271,569
Canada	Canadian Biodiversity Information Facility	Ontario Nest Records	26,686
Canada	Canadian Biodiversity Information Facility	Peter Hall Observations	4,732
Canada	Canadian Biodiversity Information Facility	Phragmites of Canada	1,679
Canada	Canadian Biodiversity Information Facility	Point Pelee National Park Collection, Canada	243



GBIF Participant	Data Provider	Data Sharer	Records Shared
Canada	Canadian Biodiversity Information Facility	Provincial Museum of Alberta	1,224
Canada	Canadian Biodiversity Information Facility	Provincial Museum of Alberta, Edmonton, AB, Canada. Birds (Aves)	26,375
Canada	Canadian Biodiversity Information Facility	R. Curry Collection	14
Canada	Canadian Biodiversity Information Facility	Ross A. Layberry Observations	24,665
Canada	Canadian Biodiversity Information Facility	Ross A. Layberry, Collection	2,653
Canada	Canadian Biodiversity Information Facility	Royal Botanical Gardens Herbarium	13,570
Canada	Canadian Biodiversity Information Facility	Royal British Columbia Museum	22,700
Canada	Canadian Biodiversity Information Facility	Royal British Columbia Museum Entomology Collection	9,810
Canada	Canadian Biodiversity Information Facility	Royal Ontario Museum: Entomology	25,959
Canada	Canadian Biodiversity Information Facility	Royal Saskatchewan Museum Collection	3,956
Canada	Canadian Biodiversity Information Facility	Spencer Entomological Museum	1,023
Canada	Canadian Biodiversity Information Facility	Strickland Museum of Entomology	2,300
Canada	Canadian Biodiversity Information Facility	The Provincial Museum of Newfoundland and Labrador Natural History Collection	28
Canada	Canadian Biodiversity Information Facility	University of Guelph, Department of Environmental Biology	3,079
Canada	Canadian Biodiversity Information Facility	University of New Brunswick Collection	321
Canada	Canadian Biodiversity Information Facility	University of Saskatchewan	510
Canada	Canadian Biodiversity Information Facility	University of Western Ontario Collection	963
Colombia	HERBARIO NACIONAL COLOMBIANO	Herbario Nacional Colombiano	8,723
Costa Rica	Instituto Nacional de Biodiversidad (Costa Rica)	Biodiversidad de Costa Rica	2,981,222
Costa Rica	Museo Nacional	Herbario Nacional de Costa Rica	190,213
Denmark	The Danish Biodiversity Information Facility	Algae Collection	41,202
Denmark	The Danish Biodiversity Information Facility	Crustacea species in ZMUC	7,968
Denmark	The Danish Biodiversity Information Facility	Entomology Department Collections, ZMUC	2,769
Denmark	The Danish Biodiversity Information Facility	Herbarium Faeroense	12,844
Denmark	The Danish Biodiversity Information Facility	Pilularia Globulifera distribution map in Denmark	230
Denmark	The Danish Biodiversity Information Facility	Red listed plants in Denmark	3,299
Denmark	Herbarium of the University of Aarhus	The AAU Herbarium Database	118,370

GBIF Participant	Data Provider	Data Sharer	Records Shared
Denmark	The Danish Biodiversity Information Facility	The Danish Newt Collection	557
Denmark	The Danish Biodiversity Information Facility	The Danish Royal Veterinary and Agricultural University's Arboretum	24,859
Denmark	The Danish Biodiversity Information Facility	The Fish Collection	70,229
Denmark	The Danish Biodiversity Information Facility	The Fungi Database	39,824
Denmark	The Danish Biodiversity Information Facility	The Lichen Database	6,957
Denmark	The Danish Biodiversity Information Facility	Type database	20,407
Denmark	The Danish Biodiversity Information Facility	Western Palearctic migrants in continental Africa	25,333
EASIANET	The Museum of Biology, Sun Yatsen Univ	Plant specimen collection	96,819
EASIANET	The Hong Kong University Herbarium	The University of Hong Kong Herbarium	1,911
EC	European Environment Agency	EUNIS2	1,646,269
EC	Israel Nature and Parks Authority	Israel Nature and Parks Authority	402,970
Estonia	Institute of Zoology and Botany of EAU	Institute of Zoology and Botany of EAU	439
Finland	University of Turku provider	Auchenorhyncha collections of SW Finland	1,659
Finland	University of Helsinki, Department of Applied Biology	European Lepidoptera Observations by Donald Hobern	2,410
Finland	University of Turku provider	Heteroptera collections of SW Finland	11,251
Finland	University of Helsinki, Department of Applied Biology	Lepidoptera collection of Hannu Saarenmaa	50,817
Finland	University of Helsinki, Department of Applied Biology	Lepidoptera Observations from New Zealand by Donald Hobern	886
Finland	University of Helsinki, Department of Applied Biology	Lepidopterological Society of Finland	7,737
Finland	University of Helsinki, Department of Applied Biology	LepInfo Estonia	2
Finland	University of Helsinki, Department of Applied Biology	Naturhistoriska Riksmuseet Stockholm	13
Finland	University of Helsinki, Department of Applied Biology	Rancho Grande	1,393
Finland	University of Turku provider	Rosaceae and Fabaceae of Kevo region, Northern Finland	19,972
Finland	University of Turku provider	Schulman's Neotropical Adelobotrys database	1,077



GBIF Participant	Data Provider	Data Sharer	Records Shared
Finland	University of Helsinki, Department of Applied Biology	Stuttgart images	1
Finland	University of Helsinki, Department of Applied Biology	Zoological Institute, Sankt Petersburg	28
France	Cameroon National Herbarium	Cameroon National Herbarium	13,714
France	Herbier de la Guyane	Herbier de la Guyane	0
France	Museum national d'histoire naturelle	Ichtyologie	117,699
France	Museum national d'histoire naturelle	Phanerogamie	476,299
Germany	Botanic Garden and Botanical Museum Berlin-Dahlem	Botanic Garden and Botanical Museum Berlin-Dahlem	2,702
Germany	Botanic Garden and Botanical Museum Berlin-Dahlem	Botanic Garden and Botanical Museum Berlin-Dahlem	3,068
Germany	Botanic Garden and Botanical Museum Berlin-Dahlem	Botanic Garden and Botanical Museum Berlin-Dahlem	29,274
Germany	Botanic Garden and Botanical Museum Berlin-Dahlem	Botanic Garden and Botanical Museum Berlin-Dahlem	1,730
Germany	Botanic Garden and Botanical Museum Berlin-Dahlem	Botanic Garden and Botanical Museum Berlin-Dahlem	1,359
Germany	Botanic Garden and Botanical Museum Berlin-Dahlem	Botanic Garden and Botanical Museum Berlin-Dahlem	10,666
Germany	Botanic Garden and Botanical Museum Berlin-Dahlem	Botanic Garden and Botanical Museum Berlin-Dahlem	190
Germany	Botanic Garden and Botanical Museum Berlin-Dahlem	Botanic Garden and Botanical Museum Berlin-Dahlem	1,002
Germany	Botanic Garden and Botanical Museum Berlin-Dahlem	Botanic Garden and Botanical Museum Berlin-Dahlem	8,010
Germany	Botanic Garden and Botanical Museum Berlin-Dahlem	Botanic Garden and Botanical Museum Berlin-Dahlem	65,225
Germany	Botanic Garden and Botanical Museum Berlin-Dahlem	Botanic Garden and Botanical Museum Berlin-Dahlem	23
Germany	Botanic Garden and Botanical Museum Berlin-Dahlem	Botanic Garden and Botanical Museum Berlin-Dahlem	3
Germany	Botanic Garden and Botanical Museum Berlin-Dahlem	Botanic Garden and Botanical Museum Berlin-Dahlem	33,265
Germany	Botanische Staatssammlung München	Botanische Staatssammlung München	3,022
Germany	Botanische Staatssammlung München	Botanische Staatssammlung München	1,263
Germany	Botanische Staatssammlung München	Botanische Staatssammlung München	1,904
Germany	Botanische Staatssammlung München	Botanische Staatssammlung München	21,348
Germany	Botanische Staatssammlung München	Botanische Staatssammlung München	0
Germany	Bundesamt für Naturschutz / Zentralstelle für Phytodiversität Deutschland	Bundesamt fuer Naturschutz / Zentralstelle fuer Phytodiversitaet Deutschland	3,934,857
Germany	Bundesamt für Naturschutz / Zentralstelle für Phytodiversität Deutschland	Bundesamt für Naturschutz / Zentralstelle für Phytodiversität Deutschland	256,514

GBIF Participant	Data Provider	Data Sharer	Records Shared
Germany	DSMZ	DSMZ	10,961
Germany	DSMZ	DSMZ	538
Germany	Fachbereich Wald und Forstwirtschaft	Fachbereich Wald und Forstwirtschaft	263,572
Germany	Herbarium Hamburgense	Herbarium Hamburgense	13,943
Germany	Herbarium Hamburgense	Herbarium Hamburgense	19,294
Germany	Herbarium Hamburgense	Herbarium Hamburgense	2,008
Germany	Humboldt-Universität Berlin	Humboldt-Universität Berlin	15,326
Germany	IPK Gatersleben	IPK Gatersleben	109,711
Germany	Museum für Naturkunde, Humboldt-Universität zu Berlin	Museum für Naturkunde, Humboldt-Universität zu Berlin	2,892
Germany	Senckenberg	Senckenberg	38,103
Germany	Senckenberg	Senckenberg	61,537
Germany	SysTax	SysTax	164,817
Germany	SysTax	SysTax	130,531
Germany	SysTax	SysTax	43,621
Germany	Universitatsherbarium Gottingen; Gesellschaft für wissenschaftliche Datenverarbeitung mbH Gottingen GWDG.	Universitatsherbarium Gottingen; Gesellschaft für wissenschaftliche Datenverarbeitung mbH Gottingen GWDG.	17,671
Germany	Universitatsherbarium Gottingen; Gesellschaft für wissenschaftliche Datenverarbeitung mbH Gottingen GWDG.	Universitatsherbarium Gottingen; Gesellschaft für wissenschaftliche Datenverarbeitung mbH Gottingen GWDG.	28,285
Germany	Universitatsherbarium Gottingen; Gesellschaft für wissenschaftliche Datenverarbeitung mbH Gottingen GWDG.	Universitatsherbarium Gottingen; Gesellschaft für wissenschaftliche Datenverarbeitung mbH Gottingen GWDG.	596
Germany	Zoologisches Forschungsinstitut und Museum Alexander Koenig	Zoologisches Forschungsinstitut und Museum Alexander Koenig	18,587
Iceland	Icelandic Institute of Natural History	Herbarium (AMNH)	50,424
Iceland	Icelandic Institute of Natural History	Herbarium (ICEL)	83,296
Iceland	Icelandic Institute of Natural History, Akureyri Division	Icelandic Institute of Natural History, Akureyri Division	47,831
Iceland	Icelandic Institute of Natural History	Observational database of Icelandic plants	371,265
Japan	National Institute of Genetics, ROIS	Database of Fungal Specimens Maintained at the Selected Japanese Herbaria	16,165
Japan	GTI Japan	EASIANET	478
Japan	National Institute of Genetics, ROIS	Flora of Japan Specimen Database	4,498
Japan	GTI Japan	Freshwater fish collection	25,955
Japan	GTI Japan	GTI MICROFUNGI OBSERVATION	223
Japan	GTI Japan	JTYPE	4,871
Japan	GTI Japan	KYO	34,748



GBIF Participant	Data Provider	Data Sharer	Records Shared
Japan	National Institute of Genetics, ROIS	Lichen specimen database of Faurie collection	7,849
Japan	GTI Japan	National Survey on Odonata	5,633
Korea, Republic of	CCBB (Center for Computational Biology and Bioinformatics), KISTI	Aquatic Vascular plants in Korea	70
Korea, Republic of	CCBB (Center for Computational Biology and Bioinformatics), KISTI	Database of Annelida (Order Oligochaeta)	40
Korea, Republic of	CCBB (Center for Computational Biology and Bioinformatics), KISTI	Factual Database of Native Flora Seeds in Korea	736
Korea, Republic of	KBIF Biodiversity Data Repository	KBIF Biodiversity Data Repository	233
Korea, Republic of	CCBB (Center for Computational Biology and Bioinformatics), KISTI	Korean Agricultural cari (Chelicerata)	98
Korea, Republic of	CCBB (Center for Computational Biology and Bioinformatics), KISTI	Korean Bird Database	5,692
Korea, Republic of	CCBB (Center for Computational Biology and Bioinformatics), KISTI	Korean Insect Database	1,582
Korea, Republic of	CCBB (Center for Computational Biology and Bioinformatics), KISTI	Korean Insect Database (Hymenoptera: Ichneumonidae)	300
Korea, Republic of	CCBB (Center for Computational Biology and Bioinformatics), KISTI	Korean Micro Bacteria Database	346
Korea, Republic of	CCBB (Center for Computational Biology and Bioinformatics), KISTI	Korean Mushroom	1,000
Korea, Republic of	CCBB (Center for Computational Biology and Bioinformatics), KISTI	Korean Native Plants Database	170
Korea, Republic of	CCBB (Center for Computational Biology and Bioinformatics), KISTI	Korean Plant Virus Database	28
Korea, Republic of	National Science Museum of Korea	National Science Museum of Korea DB	20,294
Korea, Republic of	CCBB (Center for Computational Biology and Bioinformatics), KISTI	Reference DB of Korean land Arthropods	4,121
Korea, Republic of	CCBB (Center for Computational Biology and Bioinformatics), KISTI	The Korean Freshwater Fish	209
Mexico	CNMA Mamíferos	CNMA Mamíferos	41,587
Mexico	Instituto de Biología	Colección de Helminfos	5,221
Mexico	Museo de Zoología de la Facultad de Ciencias, UNAM	Coleccion de Herpetología, MZFC-UNAM	21,333
Mexico	Instituto de Biología	Coleccion Nacional de Anfibios y Reptiles	12,320
Mexico	Instituto de Biología	Herbario Nacional (MEXU): Colección de Briofitas	2,056

GBIF Participant	Data Provider	Data Sharer	Records Shared
NatureServe	NatureServe	NatureServe Network Species Occurrence Data	558,341
Netherlands	NLBIF	(Zoological Museum Amsterdam) Amphibia and Reptilia	14,195
Netherlands	NLBIF	(Zoological Museum Amsterdam) Aves	25,788
Netherlands	NLBIF	(Zoological Museum Amsterdam) Bombidae	11,657
Netherlands	NLBIF	(Zoological Museum Amsterdam) Bryozoa	211
Netherlands	NLBIF	(Zoological Museum Amsterdam) Coelenterata	1,209
Netherlands	NLBIF	(Zoological Museum Amsterdam) Coleoptera	1,259
Netherlands	NLBIF	(Zoological Museum Amsterdam) Diptera	3,816
Netherlands	NLBIF	(Zoological Museum Amsterdam) Porifera	5,055
Netherlands	CBS (NLBIF)	CBS fungi	36,168
Netherlands	NLBIF	Natural History Museum Rotterdam (NMR)	2,234
Netherlands	NLBIF	Naturalis Coelenterata	3,118
Netherlands	NLBIF	NLBIF	1,545,191
Netherlands	NLBIF	NLBIF	14,311
Netherlands	NLBIF	NLBIF	246,662
Netherlands	NLBIF	NLBIF	397,137
Netherlands	NLBIF	Orthoptera	85,970
New Zealand	GBIF New Zealand	International Collection of Microorganisms from Plants - New Zealand National Microbial Collection	9,792
New Zealand	GBIF New Zealand	New Zealand National Plant Herbarium (CHR)	100,331
New Zealand	GBIF New Zealand	New Zealand National Vegetation Survey Databank	1,259,770
New Zealand	GBIF New Zealand	NZFUNGI - Collections of the New Zealand National Fungal Herbarium (PDD)	60,375
NGB	The Nordic Gene Bank	The Nordic Gene Bank	30,255
Nicaragua	Herbario de la Universidad de Leon	Base de datos de plantas	84,019
Norway	Natural History Museum, University of Oslo	Bryophyte herbarium, Bergen (BG)	13,905
Norway	Natural History Museum, University of Oslo	Bryophyte herbarium, Oslo (O)	8,822
Norway	Natural History Museum, University of Oslo	Fungi field notes, Oslo (O)	22,230
Norway	Natural History Museum, University of Oslo	Lichen field notes, Oslo (O)	1
Norway	Natural History Museum, University of Oslo	Lichen herbarium, Bergen (BG)	63,472
Norway	Natural History Museum, University of Oslo	Lichen herbarium, Oslo (O)	122,432
Norway	Natural History Museum, University of Oslo	Mycology collection, Norwegian Forest Research Institute	1



GBIF Participant	Data Provider	Data Sharer	Records Shared
Norway	Natural History Museum, University of Oslo	Mycology herbarium, Bergen (BG)	14,729
Norway	Natural History Museum, University of Oslo	Mycology herbarium, Oslo (O)	1
Norway	Natural History Museum, University of Oslo	Norwegian Lepidoptera collection, Oslo	55,062
Norway	Natural History Museum, University of Oslo	Notes from the Mycology Herbarium, Oslo (O)	26,684
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	``South Western Pacific Regional OBIS Data provider for the NIWA Marine Biodiversity Information System``	377,929
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	A comparison of benthic biodiversity in the North Sea, English Channel and Celtic Seas	2,588
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	Academy of Natural Sciences OBIS Mollusc Database	0
OBIS	School of Fisheries and Ocean Sciences	Arctic Ocean Diversity	8
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	Atlantic Canada Conservation Data Centre	1,365
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	Atlantic Reference Centre	112,007
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	Bay of Fundy Species List	2,381
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	Benthic fauna in the Pechora Sea	1,324
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	Bermuda Atlantic Time-series Study Zooplankton Census	635
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	Biogeography Scheldt Estuary	31,747
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	BioMar	93,003
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	Canada Maritimes Regional Cetacean Sightings	11,068
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	Canadian Museum of Nature - Fish Collection	39,897
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	CephBase	3,175
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	Continuous Plankton Recorder database	721,921

GBIF Participant	Data Provider	Data Sharer	Records Shared
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	Continuous Plankton Recorder database	1,374,234
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	CSIRO Marine Data Warehouse (via OBIS Australia)	106,342
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	CSIRO Marine Data Warehouse (via OBIS Australia)	6,155
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	CSIRO Marine Data Warehouse (via OBIS Australia)	8,029
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	CSIRO Marine Data Warehouse (via OBIS Australia)	1,555
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	DFO Scotian Summer Research Trawl Survey	60,108
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	Eastern Canada Benthic Macro Fauna	5,650
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	ECNASAP	521,085
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	Electronic Atlas of Ichthyoplankton on the Scotian Shelf of North America	4,106
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	EPA'S EMAP Database	39,882
OBIS	FishBase	FishBase DiGIR Provider - Philippine Server	1,534,610
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	FishBase DiGIR Provider - Philippine Server	727,402
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	Generic Taxonomic Database System on Mysida and Nematoda	3,617
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	Gwaii Haanas Invertebrates	24,311
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	Gwaii Haanas Marine Plants	6,351
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	Hexacoral Database	39,414
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	HMAP-History of Marine Animal Populations	242,384
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	Ifremer BIOCEAN database (Deep Sea Benthic Fauna)	23,876



GBIF Participant	Data Provider	Data Sharer	Records Shared
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	Macrobel: Long term trends in the macrobenthos of the Belgian Continental Shelf	21,043
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	Marine Invertebrate Diversity Initiative	295
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	MedOBIS	11,395
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	Meiobenthos of subtidal sandbanks on the Belgian Continental Shelf	6,450
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	MICROBIS database	2,614
OBIS	International Census of Marine Microbes	MICROBIS database	2,584
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	NBI	156,948
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	NODC WOD01 Plankton Database	1,281,125
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	Nova Scotia Museum of Natural History - Marine Birds, Mammals, and Fishes	579
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	Pacific Ocean Shelf Tracking	4,412
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	Resolute Passage Copepod Distribution	3,428
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	REVIZEE Score Sul/Bentos	2,811
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	SEAMAP - marine mammals, birds and turtles	1,050,294
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	SeamountsOnline (seamount biota)	7,318
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	Southampton Oceanography Center Discovery Collections Midwater Database	92,851
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	Taxonomic Information System for the Belgian coastal area	36,935
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	Temporal cover of N3, a station in Kiel bay	8,944
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	The SERTC Invertebrate Database: Invertebrates of the southeastern United States	2,097

GBIF Participant	Data Provider	Data Sharer	Records Shared
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	ZooGene A DNA Sequence Database for Calanoid Copepods and Euphausiids	114
OBIS	Institute of Marine and Coastal Sciences, Rutgers University	zooplankton	1,664
Peru	Siamazonia Provider	Biodamaz1	477
Peru	Siamazonia Provider	IIAPPoA	11,009
Poland	Institute of Zoology, Jagiellonian University	Apionidae of Tatra Mts.	858
Poland	Institute of Nature Conservation PAS	Atlas of the Amphibians and Reptiles of Poland	3,883
Poland	Botanic Garden of Warsaw University	Botanical Garden Collection	885
Poland	Institute of Environmental Sciences UJ	Breeding birds in Malopolska	8,300
Poland	Institute of Zoology, Jagiellonian University	Carabidae Collection	22,906
Poland	Institute of Zoology, Jagiellonian University	Carabidae of the Slonne Mts.	62
Poland	Institute of Zoology, Jagiellonian University	Carabidae of the Tatra Mts.	66
Poland	Institute of Zoology, Jagiellonian University	Chrysomelidae of Beskid Maly Mts.	356
Poland	Institute of Zoology, Jagiellonian University	Chrysomelidae of Beskid Zywiecki Mts.	10,995
Poland	Institute of Zoology, Jagiellonian University	Chrysomelidae of Pomeranian Lakeland	2,168
Poland	Institute of Zoology, Jagiellonian University	Curculionoidea of the Magura Spiska Mts.	1,352
Poland	Institute of Zoology, Jagiellonian University	Curculionoidea of the Pieniny Spiskie Mts.	1,387
Poland	Institute of Biochemistry and Biophysics PAS	IBB bacterial database	2,184
Poland	Institute of Biochemistry and Biophysics PAS	IBB plasmid database	1,429
Poland	Institute of Biochemistry and Biophysics PAS	IBB yeast database	2,914
Poland	Institute of Environmental Sciences UJ	Lepidoptera of Cracow City	1,422
Poland	Mammal Research Institute PAS	Mammal Collection	23,005
Poland	Museum and Institute of Zoology, Polish Academy of Science	Museum and Institute of Zoology, Polish Academy of Science	42,570
Poland	IHAR	National Centre for Plant Genetic Resources, Poland	3,008
Poland	IHAR	National Centre for Plant Genetic Resources, Poland	40,354
Poland	IHAR	National Centre for Plant Genetic Resources, Poland	1,356
Poland	Institute of Nature Conservation PAS	National System of Protected Areas	11,627
Poland	Warsaw University, Faculty of Biology	Warsaw University, Faculty of Biology	0



GBIF Participant	Data Provider	Data Sharer	Records Shared
Poland	Warsaw University, Faculty of Biology	Warsaw University, Faculty of Biology	0
Slovenia	Prirodoslovni muzej Slovenije	Siphonaptera collection Slovenia	0
Slovenia	Prirodoslovni muzej Slovenije	Siphonaptera collection world	0
South Africa	National Research Foundation	ADU Beta Resource	2,111,770
South Africa	National Research Foundation	Albany Beta Resource	1,560
South Africa	National Research Foundation	IZIKO Beta Resource	4,884
South Africa	National Research Foundation	SAIAB Beta Resource	1,560
Spain	GBIF-Spain	Aranzadi Zientzi Elkarte	12,338
Spain	GBIF-Spain	CeDoc de Biodiversitat Vegetal: BCN-Cormophyta	4,134
Spain	GBIF-Spain	CIBIO, Alicante:ABH-GBIF	10,485
Spain	GBIF-Spain	Departamento de Biolog. Veg. II, Facultad de Farmacia, Universidad Complutense, Madrid: MAF-Lich	13,683
Spain	GBIF-Spain	Departamento de Biolog. Veg. II, Facultad de Farmacia, Universidad Complutense, Madrid: MAF	4,971
Spain	GBIF-Spain	Estacion Biologica Donana - CSIC, Aves (Trochilidae)	125
Spain	GBIF-Spain	Estacion Biologica Donana - CSIC, Guinean Bats	1,043
Spain	GBIF-Spain	Flora Mycologica Iberica	52,810
Spain	GBIF-Spain	GBIF-PORTUGAL-Herbário João de Carvalho e Vasconcellos, I.S.A./U.T.L.	11,209
Spain	GBIF-Spain Herbario de la Universidad de Granada	GDA, GDAC	44,565
Spain	GBIF-Spain	Herbario Universidad de Málaga: MGC-Cormófitos	1,191
Spain	GBIF-Spain	Instituto Pirenaico de Ecología-CSIC: Herbarium JACA	50,939
Spain	GBIF-Spain	Jardi Botanic de Valencia: VAL	39,545
Spain	GBIF-Spain	Jardín Botánico de Córdoba: Herbarium COA	16,500
Spain	GBIF-Spain	Museo Nacional de Ciencias Naturales, Entomología: Iberian Orthopteroids	1,048
Spain	University of Navarra, Museum of Zoology	Museum of Zoology, University of Navarra	860
Spain	GBIF-Spain	Real Jardin Botánico (Madrid), Vascular Plant Herbarium (MA)	190,347
Spain	GBIF-Spain	Real Jardin Botánico, Madrid: MA-Algae	8,034
Spain	GBIF-Spain	Real Jardin Botánico, Madrid: MA-Fungi	57,407
Spain	GBIF-Spain	Real Jardin Botánico, Madrid: MA-Funhist	20,979

GBIF Participant	Data Provider	Data Sharer	Records Shared
Spain	GBIF-Spain	Real Jardin Botanico, Madrid: MA-Hepat	3,859
Spain	GBIF-Spain	Real Jardin Botanico, Madrid: MA-Lichen	14,509
Spain	GBIF-Spain	Real Jardin Botanico, Madrid: MA-Musci	24,116
Spain	Herbario SANT, Universidade de Santiago de Compostela	SANT herbarium vascular plant collection	12,167
Spain	GBIF-Spain	Univ. Herbarium SALAMANCA: SALA	26,756
Spain	GBIF-Spain	Universidad de Almería, HUAL	6,229
Spain	GBIF-Spain	Universidad de Extremadura, UNEX	5,029
Spain	GBIF-Spain	Universidad de Oviedo. Departamento de Biología de Organismos y Sistemas: FCO	6,635
Spain	GBIF-Spain	Universidad del País Vasco/EHU, Bilbao: Herbario BIO	9,158
Spain	Universidad Politécnica de Madrid	Universidad Politécnica de Madrid	1,607
Spain	Universidad Politécnica de Madrid	Universidad Politécnica de Madrid	730
Spain	GBIF-Spain	Universitat de Girona: HGI- Cormophyta	4,310
Sweden	The Swedish Museum of Natural History (NRM)	Birds (GBIF-SE:Artdatabanken)	4,516,376
Sweden	The Swedish Museum of Natural History (NRM)	Butterfly (GBIF-SE:Artdatabanken)	123,171
Sweden	The Swedish Museum of Natural History (NRM)	Fishes (NRM)	42,104
Sweden	The Swedish Museum of Natural History (NRM)	Fungi (GBIF-SE:Artdatabanken)	26,205
Sweden	The Swedish Museum of Natural History (NRM)	Gothenburg Natural History Museum	5,704
Sweden	The Swedish Museum of Natural History (NRM)	Herbarium of Oskarshamn (OHN)	120,348
Sweden	The Swedish Museum of Natural History (NRM)	Herpetology (NRM)	4,257
Sweden	The Swedish Museum of Natural History (NRM)	Invertebrates (GBIF-SE:SMNH)	78,911
Sweden	The Swedish Museum of Natural History (NRM)	Lichens (S)	52,995
Sweden	The Swedish Museum of Natural History (NRM)	Lund Botanical Museum (LD)	141,170
Sweden	The Swedish Museum of Natural History (NRM)	Mosses (S)	85,726
Sweden	The Swedish Museum of Natural History (NRM)	National Board of Fisheries (Fiskeriverket) - Institute of Coastal Research	146,805
Sweden	The Swedish Museum of Natural History (NRM)	National Board of Fisheries (Fiskeriverket) - National Register of Survey testfishing	17,447



GBIF Participant	Data Provider	Data Sharer	Records Shared
Sweden	The Swedish Museum of Natural History (NRM)	National Board of Fisheries (Fiskeriverket) - Swedish Electrofishing Registry	67,371
Sweden	The Swedish Museum of Natural History (NRM)	Nordic Herbarium (S)	108,035
Sweden	The Swedish Museum of Natural History (NRM)	Plants (GBIF-SE:Artdatabanken)	360,319
Switzerland	Herbaria of the University and ETH Zürich (Z+ZT)	Herbaria of the University and ETH Zürich (Z+ZT)	48,778
Taiwan	Taiwan Biodiversity Information Facility	Database (OBIS distribution) TaiBIF	14,405
Taiwan	Taiwan Biodiversity Information Facility	Database (OBIS distribution) TaiBIF	30,439
Taiwan	Taiwan Biodiversity Information Facility	Database (OBIS distribution) TaiBIF	4,591
Taiwan	Taiwan Biodiversity Information Facility	Database (OBIS distribution) TaiBIF	57,245
UK	UK National Biodiversity Network	1995 Broads ESA breeding wader survey	841
UK	UK National Biodiversity Network	Amphibian Records for Wiltshire 1900 - 2003	2,479
UK	UK National Biodiversity Network	Ants: Formica Exsecta Records (Scotland)	263
UK	UK National Biodiversity Network	Ants: Formica Exsecta Records from Abernethy RSPB	320
UK	UK National Biodiversity Network	Aquatic Heteroptera Dataset	45,306
UK	UK National Biodiversity Network	Atomariinae Dataset	10,389
UK	UK National Biodiversity Network	Batsites inventory for Britain	12,728
UK	UK National Biodiversity Network	Bryophyte data for Great Britain from the British Bryological Society held by BRC	780,340
UK	UK National Biodiversity Network	Bryophyte Survey of the Poole Basin Mires - NBN South West Pilot Project Case Studies	3,313
UK	UK National Biodiversity Network	Cantharoidea and Buprestoidea Dataset	39,792
UK	UK National Biodiversity Network	Cerambycidae Dataset	12,794
UK	UK National Biodiversity Network	Coccinellidae Data	9,043
UK	UK National Biodiversity Network	Cranefly Dataset	33,132
UK	UK National Biodiversity Network	Crayfish Dataset	8,815
UK	UK National Biodiversity Network	Database for the Atlas of Freshwater Fishes??	278,478
UK	UK National Biodiversity Network	Demonstration set of data downloaded from the BSBI threatened plant database	2,300
UK	UK National Biodiversity Network	Dormouse site inventory	1,396

GBIF Participant	Data Provider	Data Sharer	Records Shared
UK	UK National Biodiversity Network	Dorset Hawkmoths - NBN South West Pilot Project Case Studies	5,354
UK	UK National Biodiversity Network	Dorset Heath - NBN South West Pilot Project Case Studies	773
UK	UK National Biodiversity Network	Dorset Invasive Alien Plants - NBN South West Pilot Project Case Studies	942
UK	UK National Biodiversity Network	Dorset SW Pilot species dataset	5,949
UK	UK National Biodiversity Network	Dragonfly and Damselfly records	99,284
UK	UK National Biodiversity Network	England Otter Survey Database	2,297
UK	Herbarium RNG, School of Plant Sciences, The University of Reading	Herbarium RNG, School of Plant Sciences, The University of Reading	43,024
UK	UK National Biodiversity Network	Highland Biological Recording Group Full Dataset	25,242
UK	UK National Biodiversity Network	Hoverfly Recording Scheme database for Great Britain	375,391
UK	UK National Biodiversity Network	Invertebrate Site Register - England.	253,931
UK	Department of Plant Sciences, University of Oxford	Leucaena BRAHMS Database	746
UK	UK National Biodiversity Network	Lothian Wildlife Information Centre Secret Garden Survey	5,399
UK	UK National Biodiversity Network	Mammals Database	128,014
UK	UK National Biodiversity Network	Marine benthic dataset (version 1) commissioned by UKOOA	181,715
UK	UK National Biodiversity Network	Marine Life Information Network (MarLIN) marine survey data (Professional)	128,522
UK	UK National Biodiversity Network	Marine Life Survey Data (collected by volunteers) collated by MarLIN	10,043
UK	UK National Biodiversity Network	Marine Nature Conservation Review (MNCR) and associated benthic marine data held and managed by English Nature	13,769
UK	UK National Biodiversity Network	Marine Nature Conservation Review (MNCR) and associated benthic marine data held and managed by JNCC	573,334
UK	UK National Biodiversity Network	Marine Nature Conservation Review (MNCR) and associated benthic marine data held and managed by Scottish Natural Heritage	16,531
UK	UK National Biodiversity Network	Marine Nature Conservation Review (MNCR) and associated benthic marine data held and managed by CCW	14,408



GBIF Participant	Data Provider	Data Sharer	Records Shared
UK	UK National Biodiversity Network	Marine Turtles	637
UK	UK National Biodiversity Network	Mollusc (non-marine) data for Great Britain and Ireland	149,258
UK	Natural History Museum	Natural History Museum	233,631
UK	UK National Biodiversity Network	Nearshore winter seabird survey of South-west England 1994/95	1,480
UK	UK National Biodiversity Network	New Atlas of the British & Irish Flora 2002	8,040,833
UK	UK National Biodiversity Network	Odonata Records for Wiltshire 1965 - 2002	3,052
UK	UK National Biodiversity Network	Orthoptera Dataset	44,396
UK	UK National Biodiversity Network	Pembrokeshire Marine Species Atlas	42,674
UK	UK National Biodiversity Network	Reptile Records for Wiltshire 1900 - 2003	1,667
UK	UK National Biodiversity Network	Reptiles and Amphibians Dataset	52,199
UK	UK National Biodiversity Network	Ross Coral Mapping Project - NBN South West Pilot Project Case Studies	32
UK	UK National Biodiversity Network	Scotland Otter Survey Database	8,332
UK	UK National Biodiversity Network	Seabird 2000	21,511
UK	UK National Biodiversity Network	Seasearch Marine Surveys	64,348
UK	UK National Biodiversity Network	Standing Waters Database	79,246
UK	UK National Biodiversity Network	Suffolk Orthoptera Data??	568
UK	UK National Biodiversity Network	SW Pilot Project BAP Species Inventory 2002	1,464
UK	UK National Biodiversity Network	The Dartford warbler in the UK in 1994 (1km summary)	482
UK	UK National Biodiversity Network	The status and distribution of nightjars <i>Caprimulgus europaeus</i> in Britain in 1992.	1,118
UK	UK National Biodiversity Network	The status of breeding woodlarks <i>Lullula arborea</i> in Britain in 1997	1,550
UK	UK National Biodiversity Network	The status of the ciril bunting <i>Emberiza cirilus</i> in the UK and the Channel Islands in 1998	410
UK	UK National Biodiversity Network	Ticks (Ixodoidea) distribution for the British Isles	3,971
UK	UK National Biodiversity Network	Trichoptera Dataset	17,259
UK	UK National Biodiversity Network	UK Biodiversity Action Plan: Invertebrate data for Ceredigion	882
UK	UK National Biodiversity Network	Wales Otter Survey Database	1,346
UK	UK National Biodiversity Network	Wiltshire BAP Priority Species Distribution Records	3,600

GBIF Participant	Data Provider	Data Sharer	Records Shared
USA	University of Tennessee - Knoxville (UTK)	(LMU) Lincoln Memorial University - Land Snails Collection	1
USA	University of Tennessee - Knoxville (UTK)	(NCU) University of North Carolina, Chapel Hill - Herbarium Collection	4,703
USA	University of Tennessee - Chattanooga (UTC)	(UTC) University of Tennessee Mammals Collection	906
USA	University of Tennessee - Chattanooga (UTC)	(UTCA) University of Tennessee - Amphibians Collection	186
USA	University of Tennessee - Chattanooga (UTC)	(UTCB) University of Tennessee - Birds Collection	122
USA	University of Tennessee - Chattanooga (UTC)	(UTCF) University of Tennessee - Fungi Collection	1,381
USA	University of Tennessee - Chattanooga (UTC)	(UTCFB) University of Tennessee - Fossil Birds Collection	36
USA	University of Tennessee - Chattanooga (UTC)	(UTC FM) University of Tennessee - Fossil Mammals Collection	528
USA	University of Tennessee - Chattanooga (UTC)	(UTCM) University of Tennessee - Mammals Collection	1,040
USA	University of Tennessee - Chattanooga (UTC)	(UTC-MO) University of Tennessee - Molluscs Collection	96
USA	University of Tennessee - Chattanooga (UTC)	(UTCR) University of Tennessee - Reptiles Collection	69
USA	University of Tennessee - Knoxville (UTK)	(UTKH-F) University of Tennessee - Fungal Collection	2,114
USA	University of Tennessee - Knoxville (UTK)	(UTKH-FE) University of Tennessee - Ferns Collection	527
USA	Academy of Natural Sciences	Academy of Natural Sciences Invertebrate Paleontology Database	40,392
USA	Academy of Natural Sciences	Academy of Natural Sciences Malacology Database	409,293
USA	Academy of Natural Sciences	Academy of Natural Sciences OBIS Mollusc Database	16,261
USA	Academy of Natural Sciences	Academy of Natural Sciences OBIS Mollusc Database [Darwin Core]	16,261
USA	Cornell Laboratory of Ornithology	AKN - EBIRD Data	1,959,309
USA	Cornell Laboratory of Ornithology	AKN - EBIRD Submission Data	122,187
USA	Cornell Laboratory of Ornithology	AKN - Great Backyard Bird Count Data	3,081,810
USA	Cornell Laboratory of Ornithology	AKN - Great Backyard Bird Count Submission Data	257,044
USA	Cornell Laboratory of Ornithology	AKN - Project FeederWatch Data	10,117,364
USA	Cornell Laboratory of Ornithology	AKN - Project FeederWatch Submission Data	999,242
USA	The New York Botanical Garden	American Bryophyte Catalog	89,158
USA	California Academy of Sciences	AntWeb Collection Catalog	53,434



GBIF Participant	Data Provider	Data Sharer	Records Shared
USA	International Institute for Sustainability, Arizona State University	Arizona State University Lichen Herbarium	111,100
USA	International Institute for Sustainability, Arizona State University	Arizona State University Vascular Plant Herbarium	120,463
USA	Burke Museum	Bird specimens	63,029
USA	Louisiana State University Museum of Natural Science	Bird specimens	172,638
USA	Field Museum	Birds specimens	440,821
USA	Berkeley Natural History Museums	BNHM Museum of Vertebrate Zoology DiGIR provider	647,613
USA	UCD	Bohart Museum of Entomology, UCD	1,653
USA	UCD	Bohart Museum of Entomology, UCD	13,708
USA	The New York Botanical Garden	Bronx River Bioblitz	334
USA	UCD	California State University, Chico	64,710
USA	California Academy of Sciences	CAS Bird Collection Catalog	92,558
USA	California Academy of Sciences	CAS Herpetology Collection Catalog	281,806
USA	UCD	Database Schema for UC Davis [Herbarium Labels]	24,142
USA	UCD	Database Schema for UC Davis [Phaff]	6,516
USA	UCD	Database Schema for UC Davis [TGRC]	5,592
USA	UCD	Database Schema for UC Davis Wildlife museum	11,436
USA	Berkeley Natural History Museums	Essig Museum of Entomology DiGIR provider	18,659
USA	Fairchild Tropical Botanic Garden	Fairchild Tropical Botanic Garden Virtual Herbarium	46,502
USA	Fairchild Tropical Botanic Garden	Fairchild Tropical Botanic Garden Virtual Herbarium Darwin Core format	46,502
USA	Field Museum	Fish specimens	93,270
USA	University of Alabama Biodiversity and Systematics	Herbarium (UNA)	32,133
USA	Museum of Natural Science	Herp specimens	87,734
USA	Field Museum	Herps Specimens	264,437
USA	Illinois Natural History Survey	Herps Specimens	114,461
USA	University of Texas at El Paso	Herps Specimens	20,484
USA	Ohio State University Insect Collection	Insects	114,457
USA	The New York Botanical Garden	Macrofungi Type Specimens	2,344
USA	California Academy of Sciences	Mammal Collection Catalog	27,694
USA	Burke Museum	Mammal specimens	50,933
USA	Field Museum	Mammal specimens	178,898

GBIF Participant	Data Provider	Data Sharer	Records Shared
USA	Museum of Natural Science	Mammal specimens	36,414
USA	Museum of Texas Tech University (TTU)	Mammal specimens	83,096
USA	University of Michigan Museum of Zoology (UMMZ)	Mammal specimens	125,247
USA	University of Minnesota Bell Museum of Natural History	Mammal specimens	18,611
USA	University of New Mexico Museum of Southwestern Biology (MSB)	Mammal specimens	121,391
USA	Utah Museum of Natural History	Mammal specimens	30,039
USA	University of Texas at El Paso	Mammals Specimens	8,431
USA	Museum of Comparative Zoology, Harvard University	MCZ Fish Collection	0
USA	Museum of Comparative Zoology, Harvard University	MCZ Herpetology Collection - Amphibian Database	0
USA	Museum of Comparative Zoology, Harvard University	MCZ Herpetology Collection - Reptile Database	0
USA	Museum of Comparative Zoology, Harvard University	MCZ Mammalogy Collection	0
USA	Museum of Comparative Zoology, Harvard University	MCZ Ornithology Collection	0
USA	Missouri Botanical Garden	Missouri Botanical Garden	0
USA	Institute of Natural Resource Analysis and Management	New Mexico Biodiversity Collection	308,444
USA	National Museum of Natural History (NMNH)	NMNH Collections	787,478
USA	National Museum of Natural History (NMNH)	NMNH Invertebrate Collections	787,478
USA	International Institute for Sustainability, Arizona State University	Northern Arizona University, Deaver Herbarium	22,818
USA	The New York Botanical Garden	Ozark Lichens	9,749
USA	Marine Science Institute, UCSB	Paleobiology Database	513,007
USA	Berkeley Natural History Museums	Phoebe Hearst Museum of Anthropology DiGIR provider	117,782
USA	Arkansas University	Planetary Biodiversity Inventory Eumycetozoon Databank	42,994
USA	Santa Barbara Museum of Natural History	Santa Barbara Museum of Natural History	8,483
USA	The New York Botanical Garden	Species of Eastern Brazil Vascular Plant Specimens	10,233
USA	Museum of Vertebrate Zoology	Terrestrial vertebrate specimens	645,601
USA	James R. Slater Museum of Natural History	Terrestrial vertebrates	56,506
USA	UCD	UC Davis Department of Anthropology Museum	10
USA	UCD	UC Davis Department of Anthropology Museum	103



GBIF Participant	Data Provider	Data Sharer	Records Shared
USA	UCD	UC Davis Department of Anthropology Museum	150
USA	UCD	UC Davis Department of Anthropology Museum	54
USA	UCD	UCD BOTANICAL CONSERVATORY	5,585
USA	Univ. of Kansas Biodiversity Research Center	Univ. of Kansas Biodiversity Research Center - Bird Collection	94,915
USA	Univ. of Kansas Biodiversity Research Center	Univ. of Kansas Biodiversity Research Center - Bird Collection (using MANIS DW2 Schema)	94,915
USA	Univ. of Kansas Biodiversity Research Center	Univ. of Kansas Biodiversity Research Center - Fish Collection	0
USA	Univ. of Kansas Biodiversity Research Center	Univ. of Kansas Biodiversity Research Center - Mammal Collection (using MANIS DW2 Schema)	158,095
USA	Berkeley Natural History Museums	University and Jepson Herbaria DiGIR provider	339,028
USA	International Institute for Sustainability, Arizona State University	University of Arizona Herbarium	144,131
USA	Berkeley Natural History Museums	University of California Botanical Garden DiGIR provider	22,422
USA	Berkeley Natural History Museums	University of California Museum of Paleontology DiGIR provider	250,182
USA	US National Plant Germplasm System	US National Plant Germplasm System	464,513
USA	Utah State University	USU-UTC Specimen Database	86,500
USA	Oregon State University	Vascular Plant Collection	144,702
USA	The New York Botanical Garden	Vascular Plant Type Specimens	91,037
USA	Los Angeles County Museum of Natural History	Vertebrate specimens	536,444
USA	Michigan State University Museum	Vertebrate specimens	77,995
USA	University of Colorado Museum	Zoological specimens	101,643
WFCC	WFCC-MIRCEN World Data Centre for Microorganisms (WDCM)	ATCC Bacteria Collection Catalog	3,537
WFCC	WFCC-MIRCEN World Data Centre for Microorganisms (WDCM)	ATCC Fungi Collection Catalog	6,627
WFCC	WFCC-MIRCEN World Data Centre for Microorganisms (WDCM)	CBS Bacteria Database	479
WFCC	WFCC-MIRCEN World Data Centre for Microorganisms (WDCM)	CBS Filamentous Fungi Database	8,503
WFCC	WFCC-MIRCEN World Data Centre for Microorganisms (WDCM)	CCUG Microorganisms databases (Bacteria)	1,474

GBIF Participant	Data Provider	Data Sharer	Records Shared
WFCC	WFCC-MIRCEN World Data Centre for Microorganisms (WDCM)	CCUG Microorganisms databases(Fungi)	93
WFCC	WFCC-MIRCEN World Data Centre for Microorganisms (WDCM)	CECT Spanish Type Culture Collection(Bacteria)	598
WFCC	WFCC-MIRCEN World Data Centre for Microorganisms (WDCM)	CECT Spanish Type Culture Collection(Fungi)	399
WFCC	WFCC-MIRCEN World Data Centre for Microorganisms (WDCM)	DSMZ - List of Bacteria	7,352
WFCC	WFCC-MIRCEN World Data Centre for Microorganisms (WDCM)	DSMZ Bacteria	5,337
WFCC	WFCC-MIRCEN World Data Centre for Microorganisms (WDCM)	DSMZ Fungi	1,678
WFCC	WFCC-MIRCEN World Data Centre for Microorganisms (WDCM)	IFO Bacteria database	1,645
WFCC	WFCC-MIRCEN World Data Centre for Microorganisms (WDCM)	IFO Filamentous Fungi	3,111
WFCC	WFCC-MIRCEN World Data Centre for Microorganisms (WDCM)	Institute of Ecology and Genetics of Microorganisms	24
WFCC	WFCC-MIRCEN World Data Centre for Microorganisms (WDCM)	Japan Collection of Microorganisms(Bacteria)	2,756
WFCC	WFCC-MIRCEN World Data Centre for Microorganisms (WDCM)	Japan Collection of Microorganisms(Basidio)	205
WFCC	WFCC-MIRCEN World Data Centre for Microorganisms (WDCM)	Japan Collection of Microorganisms(Fungi)	1,516
WFCC	WFCC-MIRCEN World Data Centre for Microorganisms (WDCM)	National Collection of Yeast Cultures,Norwich,UK	576





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