



BIODIVERSITY DATABASES: GLOBAL BIODIVERSITY INFORMATION FACILITY INITIATIVE (GBIF).



Autumn School in Biodiversity of Saprolegnia (Oomycetes)

Fecha: 1 - 4 noviembre 2010

Lugar: Real Jardín Botánico, CSIC



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Summary

- Biodiversity and the relevance of primary data
- Some of the most important initiatives gathering and publishing biodiversity data on line
- GBIF Initiative
 - Introduction
 - Chronology
 - GBIF basic principles
 - GBIF: Why and What for?
- GBIF Spain
- As a result: Data portals and examples of searches
- Practical cases



BIODIVERSITY AND THE RELEVANCE OF PRIMARY DATA



Biodiversity is...

“The variability among living organisms from all sources, including, 'inter alia', terrestrial, marine, and other aquatic ecosystems, and the ecological complexes of which they are part: this includes diversity within species, between species and of ecosystems”

United Nations [Convention on Biological Diversity](#).



Then biodiversity is a complex term...



- **Gene diversity**



- **Species diversity**



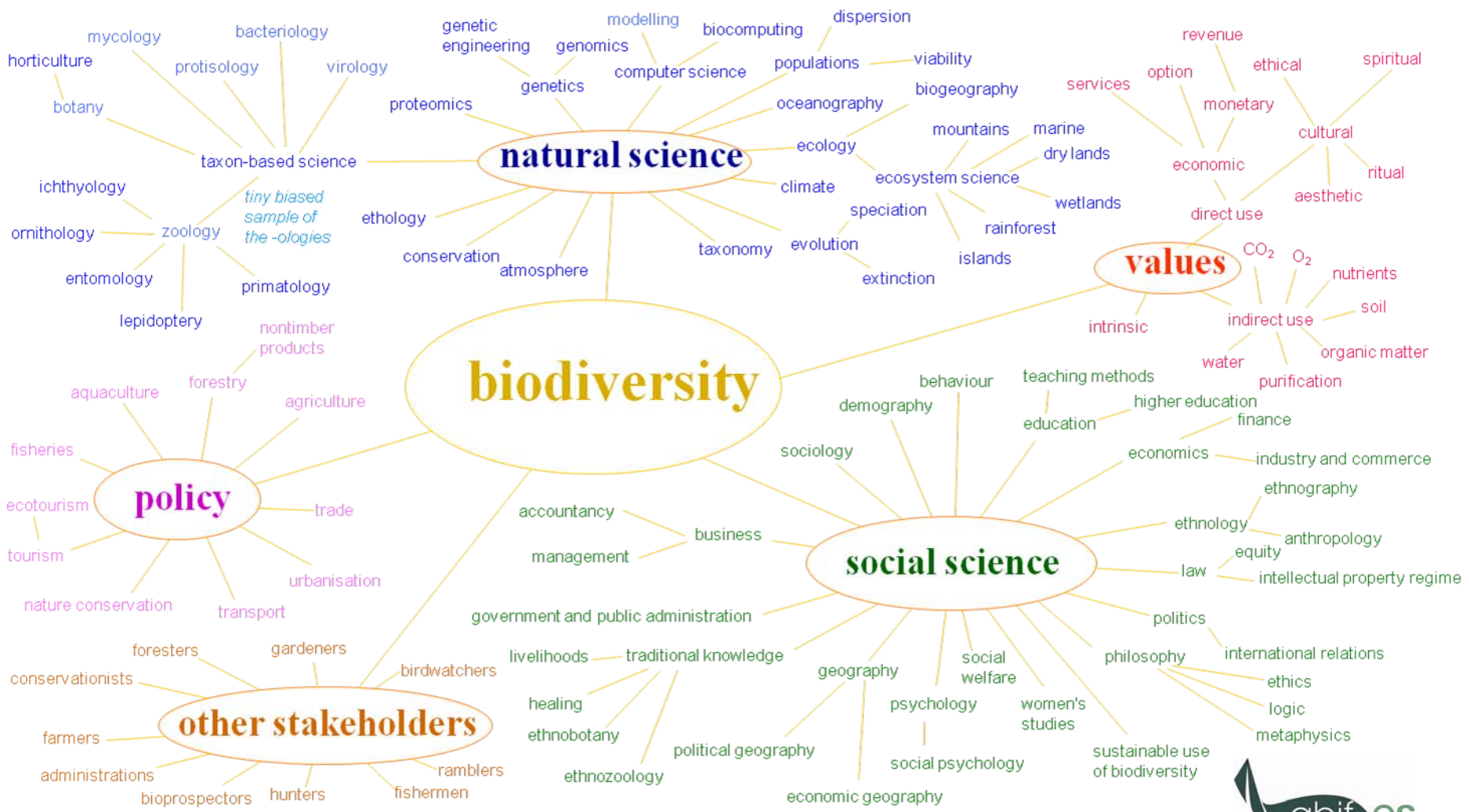
- **Biological communities diversity**

- **Ecosystem diversity**

According to Noss & Cooperrider (1994),
Decker *et al.* (1991) y Riley & Mohr
(1994)

Biodiversity conservation as a concern...

- Biodiversity conservation has been so far, a matter of concern as several international agreements, strategies and plans reflect.
- Biodiversity conservation has effects on very different areas and it is essential for nearly every aspect of human well-being: policy, economy, society... as showed in the following picture.



The relevance of open access to biodiversity data ...

- Open access to information is **a trend nowadays and it should be a target**, thanks to the development of Information Technologies and globalization.
- In the frame of Environmental Sciences and Conservation and due to current biodiversity crisis, **open access to primary biodiversity data is a need to face up the most relevant environmental problems** with success (climatic change, invasive species, habitat destruction...)
- In this sense, **GBIF and other relevant initiatives contribute to this target** by making biodiversity data available (free and open access on line) to all and anyone, for scientific research, conservation and sustainable development.




SOME OF THE MOST IMPORTANT INITIATIVES GATHERING AND PUBLISHING BIODIVERSITY DATA ON LINE

Encyclopedia of Life (EoL)

The *Encyclopedia of Life (EOL)* is a free, online collaborative encyclopedia intended to document all of the 1.8 million living species known to science. It is compiled from existing databases and from contributions by experts and non-experts throughout the world. It aims to build one "infinitely expandable" page for each species, including video, sound, images, graphics, as well as text.

HOME
PREFERENCES
LANGUAGE : EN
FEEDBACK
PRESS ROOM
USING THE SITE
ABOUT EOL

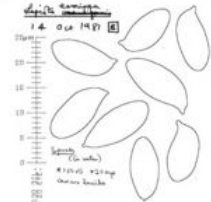
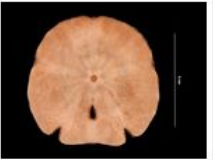





"Imagine an electronic page for each species of organism on Earth..." - Edward O. Wilson
[login](#) | [create an account](#)

FIND

Names
 Tags
 Full-text


Explore

[more species](#) ||


 <p>Leptota erminea (Fr.) Gillet 1874</p>	 <p>Encope aberrans Martens. 1867</p>	 <p>Hackelia floribunda (Lehm.) I. M. Johnston Manyflower stickseed</p>	 <p>Temera hardwickii Gray 1831 Finless sleeper ray</p>	 <p>Triplasis americana Beauv. Perennial sandgrass</p>	 <p>Gymnothorax anquisticauda (Weber & de Beaufort, 1916)</p>
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EOL Announcements

- Listen and subscribe to the [One Species at a Time](#) podcast.
- Follow us on Twitter at <http://twitter.com/EOL>. Consider also tracking [Zootaxa daily updates](#)
- For more information on becoming a curator or contributor, see how to [help us build EOL](#).
- Visit our [Gulf of Mexico Oil Spill 2010](#) resource page



Featured



[Megaloprepus caerulatus](#) (Drury, 1782)
Giant Helicopter Damselfly

What's New?

- 10/12/2010 - [Congratulations to the Winners from our recent Flickr contest "Invaders"](#)
- 10/07/2010 - [Chamois Podcast](#)
- 10/03/2010 - [MAKING OCEAN LIFE COUNT Marine Life results are ready f](#)

<http://www.eol.org>



Encyclopedia of Life (EoL)

- Practical exercise:
 - Search for *Salmo salar* and explore the different contents
 - Search for Saprolegniales and explore families and species

Catalogue of Life (CoL)

The **Catalogue of Life**, started in June 2001 by [Species 2000](#) and [Integrated Taxonomic Information System](#) (ITIS). It is planned to become a comprehensive catalogue of all known species of organisms on Earth. This is probably just about 2/3 of the world's known species. This means that for many groups it continues to be deficient, and users will notice that many species are still missing from the Catalogue.

Species
2000

Catalogue of Life, 2nd October 2010

indexing the world's known species



- Browse ▶
- Search ▶
- Info ▶

Search the Catalogue of Life - updated edition around the year

Search for:

Match whole words only

Search

Annual Checklist Interface v1.5 developed by ETI Bioinformatics.

<http://www.catalogueoflife.org>



Catalogue of Life (CoL)

- Practical exercise:
 - Browse Order Saprolegniales through taxonomic tree
 - Check if *Saprolegnia anisopora* is an accepted name
 - Check if *Achlya treleaseana* is an accepted name

Atlas of Living Australia

The Atlas of Living Australia is building tools to enable researchers and other users of biodiversity information to find, access, combine and visualise data on Australian plants and animals. The Atlas is a national collaboration between the [Australian Commonwealth Scientific and Research Organization](#) CSIRO, Australian museums, herbaria and other biological collections and the Australian Government.

The screenshot shows the website's navigation bar with links: Home, Explore, Tools, Share, Support, Contact Us, About the Atlas, My Profile, and Log in. Below the navigation is a search bar and a teal banner with the text: "The Atlas is a work in progress. This website is a window into what we are doing. We are busy integrating many more data sets and solving issues around combining data from different sources. We welcome your contributions. [Learn more.](#)"

Three main action boxes are visible:

- Get Started**: with examples, forums, videos and frequently asked questions (indicated by an exclamation mark icon).
- Explore**: information on species, maps, collections and regions (indicated by a map of Australia icon).
- Share**: sightings, photos and information (indicated by a person with a checklist icon).

Below these are two sections:

- New & Noteworthy**: featuring a row of six images with captions: Natural History Collections, Wattles, Iconic Species, Shorebirds, Citizen Science, and Thrips.
- News & Events**: with a [More](#) link. It lists two events: "6 SEPTEMBER, 2010 [Tree of Trees launch](#)" and "25 AUGUST, 2010 [July / August 2010 newsletter summary](#)". Below this is a "Subscribe to the newsletter" button with an envelope icon.

About the Atlas

The Atlas of Living Australia is building tools to enable researchers and other users of biodiversity information to find, access, combine and visualise data on Australian plants and animals. The Atlas is a national collaboration between the CSIRO, Australian museums, herbaria and other biological collections and the Australian Government. [Learn more >](#)

FishBase: A Global Information System on Fishes

FishBase is a comprehensive database of information about fish. It includes descriptions of 31,800 species, 281,300 common names, 49,700 pictures, and references to 44,500 works in the scientific literature.

Mirrors : fishbase.org | fishbase.us | fishbase.de | fishbase.fr | fishbase.se | fishbase.tw | fishbase.cn | fishbase.gr
 English | Español | Português (Br, Pt) | Français | Deutsch | Italiano | Nederlands | 简体中文 | 繁體中文 | [More...](#)



[Home](#) | [FishBase Book](#) | [Best Photos](#) | [Hints](#) | [Guest Book](#) | [Download](#) | [Links](#) | [Fish Forum](#) | [Fish Quiz](#) | [FishWatcher](#) | [Ichthyology Course](#) | [LarvalBase](#) | [Team](#) | [Collaborators](#) | [Quick Identification](#) | [Services](#)



FishBase Consortium



More info | Plus d'info | Mais info

<http://www.fishbase.org>

Common Name

is Search (e.g. rainbow trout)

ABCDEFGHIJKLMNOPQRSTUVWXYZ
 中文 العربية Русский 日本語 हिन्दी Ελληνικά [More scripts...](#)

Scientific Name

Genus is Search (e.g. Rhinodon)

Species is (e.g. typos)

Genus + Species (e.g. Tor soro)

ABCDEFGHIJKLMNOPQRSTUVWXYZ

[Why name assessments may be different](#) between FishBase and the independent C

Glossary

Search (e.g. oophagy)

ABCDEFGHIJKLMNOPQRSTUVWXYZ

Information by Family

Family info. Pictures References (FishBase) Gap
 All fishes Identification by pictures Missing photos Spec
 Nominal species Identification keys Stamps

Note: Lists may be incomplete. Some lists may be very long and will take time to load.

Information by Country / Island

n = 337
 Sort by Scientific name Valid name [See only Valid Names](#)

Scientific Name	Author	Valid Name	Family	English Name
<i>Salmo 30-radiatus</i>	Larrañaga, 1923	<i>Mylossoma duriventre</i>	Characidae	
<i>Salmo aegyptius</i>	Gmelin, 1789	<i>Distichodus nefasch</i>	Distichodontidae	
<i>Salmo agassizii</i>	Garman, 1885	<i>Salvelinus agassizii</i>	Salmonidae	Silver trout
<i>Salmo aguabonita</i>	Jordan, 1892	<i>Oncorhynchus aguabonita</i>	Salmonidae	Golden trout
<i>Salmo akairos</i>	Delling & Doadrio, 2005	<i>Salmo akairos</i>	Salmonidae	
<i>Salmo albula</i>	Linnaeus, 1758	<i>Coregonus albula</i>	Salmonidae	Vendace
<i>Salmo albus</i>	Bonnaterre, 1788	<i>Salmo trutta trutta</i>	Salmonidae	Sea trout
<i>Salmo albus</i>	Walbaum, 1792	<i>Salmo trutta trutta</i>	Salmonidae	Sea trout
<i>Salmo alpinostagnalis</i>	Smitt, 1886	<i>Salvelinus alpinus alpinus</i>	Salmonidae	Arctic char
<i>Salmo alpinus</i>	Linnaeus, 1758	<i>Salvelinus alpinus alpinus</i>	Salmonidae	Arctic char
<i>Salmo alpinus murta</i>	Saemundsson, 1908	<i>Salvelinus murta</i>	Salmonidae	
<i>Salmo alpinus thingvallensis</i>	Saemundsson, 1908	<i>Salvelinus thingvallensis</i>	Salmonidae	
<i>Salmo altivelis</i>	Temminck & Schlegel, 1846	<i>Plecoglossus altivelis altivelis</i>	Plecoglossidae	Ayu sweetfish
<i>Salmo amethystinus</i>	Mitchill, 1818	<i>Salvelinus namaycush</i>	Salmonidae	Lake trout
<i>Salmo amethystus</i>	Mitchill, 1818	<i>Salvelinus namaycush</i>	Salmonidae	Lake trout
<i>Salmo anostomus</i>	Linnaeus, 1758	<i>Anostomus anostomus</i>	Anostomidae	Striped headstander
<i>Salmo apache</i>	Miller, 1972	<i>Oncorhynchus apache</i>	Salmonidae	Apache trout
<i>Salmo aphelios</i>	Kottelat, 1997	<i>Salmo aphelios</i>	Salmonidae	
<i>Salmo arcticus</i>	Pallas, 1776	<i>Thymallus arcticus arcticus</i>	Salmonidae	Arctic grayling
<i>Salmo argentinus</i>	Linnaeus, 1766	<i>Piabucus dentatus</i>	Characidae	
<i>Salmo artedi</i>	(Lesueur, 1818)	<i>Coregonus artedi</i>	Salmonidae	Lake cisco
<i>Salmo ascanii</i>	Valenciennes, 1848	<i>Salvelinus alpinus alpinus</i>	Salmonidae	Arctic char
<i>Salmo auratus</i>	Larrañaga, 1923	<i>Salminus brasiliensis</i>	Characidae	Dorado
<i>Salmo autumnalis</i>	Pallas, 1776	<i>Coregonus autumnalis</i>	Salmonidae	Arctic cisco
<i>Salmo bairdii</i>	Suckley, 1861	<i>Salvelinus malma malma</i>	Salmonidae	Dolly varden
<i>Salmo balcanicus</i>	(Karaman, 1927)	<i>Salmo balcanicus</i>	Salmonidae	
<i>Salmo bimaculatus</i>	Linnaeus, 1758	<i>Astyanax bimaculatus</i>	Characidae	Twospot astyanax



FishBase

- Practical exercise
 - Search for Genus *Salmo*, valid names. Information for *Salmo salar*.
 - Search for aquaculture fish species in Spain

<http://www.fishbase.org>

Biological inventories of the world's protected areas

Center for the Environment (ICE), in the Department of Environmental Science & Policy at the University of California. Databases containing documented, taxonomically harmonized species inventories of plants and animals reported from the world's protected areas. This effort began in the late 1980's with a focus on U.S. National Parks, then expanded in the early 1990's to include other U.S. protected areas (National Wildlife Refuges, California state parks) and international protected areas that had been recognized by UNESCO as Biosphere Reserves.



The screenshot shows a website interface with a navigation menu on the left and a main content area. The navigation menu includes the following items: INTRODUCTION, WHAT'S NEW, NOMENCLATURES, COLLABORATORS, CONTACTS, UPDATES, and LINKS. The main content area features a grid of images representing different biological groups: PROTECTED AREAS (landscape), PLANTS (ferns), BIRDS (heron), REPTILES (lizard), MAMMALS (bison), AMPHIBIANS (frog), and FISH (underwater scene). To the right of the grid is a purple box with the text: WELCOME TO THE BIOLOGICAL INVENTORIES OF THE WORLD'S PROTECTED AREAS. Below this text is the instruction: CLICK ON AN IMAGE TO THE LEFT TO BEGIN YOUR SEARCH. A copyright notice at the bottom right of the purple box reads: © 2004 Informat.

<http://www.ice.ucdavis.edu/bioinventory/bioinventory.html>



Biological inventories of the world's protected areas

- Practical exercise
 - Search for *Salmo trutta* occurrences in protected areas reporting species

<http://www.ice.ucdavis.edu/bioinventory/bioinventory.html>


The UK Environmental Change Network

The UK Environmental Change Network (ECN) is the UK's long-term, integrated environmental monitoring and research programme. ECN gathers information about the pressures on and responses to environmental change in physical, chemical and biological systems. It is supported by a consortium of fourteen sponsoring organisations and seven research organisations.



The UK Environmental Change Network

Data, monitoring and research to detect and interpret environmental change

 **Event**
Beyond 2010: strategies for understanding and responding to long-term trends in UK biodiversity
 16-17 November 2010
 London, UK
[More ...](#)



Opening address to be given by Richard Benyon MP, Minister for Natural Environment and Fisheries

Registration now open

What's New

09 September 2010
 ECN welcomes new Moor House placement student
[More ...](#)

About ECN

Information on our [objectives](#), [sponsors](#), [sites](#), [measurements](#), [database](#) and how to [contact](#) ECN.
 ECN is developing plans for a new [targeted monitoring network](#) - [ECBN](#) - to assess impacts on biodiversity.

Environmental Indicators

[Climate change](#), [water quality](#) and [biodiversity](#) indicators have been developed using ECN data.

Research and Education

ECN offers a range of free resources for use in [environmental research](#), [higher education](#) and [schools](#).

ECN Data

Free online access to ECN's [summary](#) data is available. Applications can also be made to access the [raw data](#).

International

ECN plays a key role in [international long-term research networks](#) - LTER-Europe, ILTER and ALTER-Net

Publications

ECN has an extensive [database](#) on publications relating to ECN sites. Back issues of our [newsletter](#) are also available.



Sign up to e-News and keep in touch with ECN via e-mail
[More ...](#)



Nature and Biodiversity
 News & Views
 Read topics
[Have your say](#)

<http://www.ecn.ac.uk>




The Uk Environmental Change Network

- Practical exercise
 - Search for *ECN summary data; river sites: macroinvertebrates in Old Lodge*

National Biodiversity Network Gateway (UK)

The NBN idea is to capture wildlife data once in a standard electronic form; integrate data from different sources; and use the internet to enable data to be used many times in different ways by as many people as possible.


[Login](#) | [Register](#)

By using this site you are agreeing to be bound by the [Gateway Terms & Conditions](#) and our [Privacy Policy](#)

Home
About
NBN Gateway
Guidebooks
Useful things
News & Events
Forums
Help


NBN Gateway Home
Browse Datasets
Browse Species
Browse Sites
Web Services
Feedback

Welcome to the NBN Gateway

This is the National Biodiversity Network's Gateway. Use it to explore UK biodiversity data, as contributed by participating [data providers](#).


Web services news: a new version of the web services was published in late March, please see [the library](#) and [forum](#) for more information.

Gateway Version 3.4.1: Please see the [NBN forum](#) for further information on new functionality now provided through the NBN Gateway and web services.




Explore Datasets

[Browse Datasets](#)
[Browse Dataset Providers](#)



Explore Species

[Browse Species](#)



Explore Sites

[Browse Sites](#)
[Find Site on the Map](#)

Search for Species or Sites

Type in the name of a species or a wildlife site:

Search by Location

Create a species list for a 10km square:

HL	HM	HN	HO	HP	JL	JM
HQ	HR	HS	HT	HU	JQ	JR
HV	HW	HX	HY	HZ	JV	JW
NA	NB	NC	ND	NE	OA	OB
NF	NG	NH	NJ	NK	OF	OG
NL	NM	NN	NO	NP	OL	OM
NR	NS	NT	NU	OQ	OR	
SA	SB	SC	SD	SE	TA	TB

Gateway Database Updates

	Datasets	510
	Species records	56,756,348
	Database last updated	4th October 2010

New Species Datasets

- Buckinghamshire and Milton Keynes Environmental Records Centre
[Birds in Buckinghamshire](#)
- Leicestershire and Rutland Environmental Records Centre
[Leicestershire and Rutland Fungal and Lichen Records](#)
- Record, the Biodiversity Information System for Cheshire, Halton, Warrington and the Wirral
[RECORD Coccinellidae Data up to 19/08/2010](#)
- RSPB
[Black-throated diver national surveys in Scotland \(SCARABBS\)](#)
[Crested tit wintering survey in the UK, 1992-1995 \(RSPB\)](#)
[Greenshanks national survey in the UK, 1995 \(SCARABBS\)](#)
[Crossbills, Distribution survey in Great Britain, 1995-2005 \(RSPB\)](#)
- Scottish Natural Heritage
[Scottish Squirrel Survey \(to June 2008\)](#)
- Sheffield Bird Study Group
[Sheffield Bird Study Group \(Yorkshire records\)](#)

Updated Species Datasets

- Butterfly Conservation
[Butterfly distributions for Great Britain for the period 1990-2004 from Butterfly Conservation and the Biological Records Centre](#)
- Countryside Council for Wales
[Coastal saline lagoons and pools data from](#)

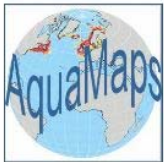


National Biodiversity Network Gateway (UK)

- Practical exercise
 - Search for *Saprolegnia* distribution and *Salmo* distribution

AquaMaps: standardized distribution maps

AquaMaps is a collaborative project with the aim of producing computer-generated (and ultimately, expert reviewed) predicted global distribution maps for marine species on a 0.5 x 0.5 degree grid of the oceans based on data available through online species databases such as FishBase and SeaLifeBase and species occurrence records from OBIS or GBIF and using an environmental envelope model in conjunction with expert input.



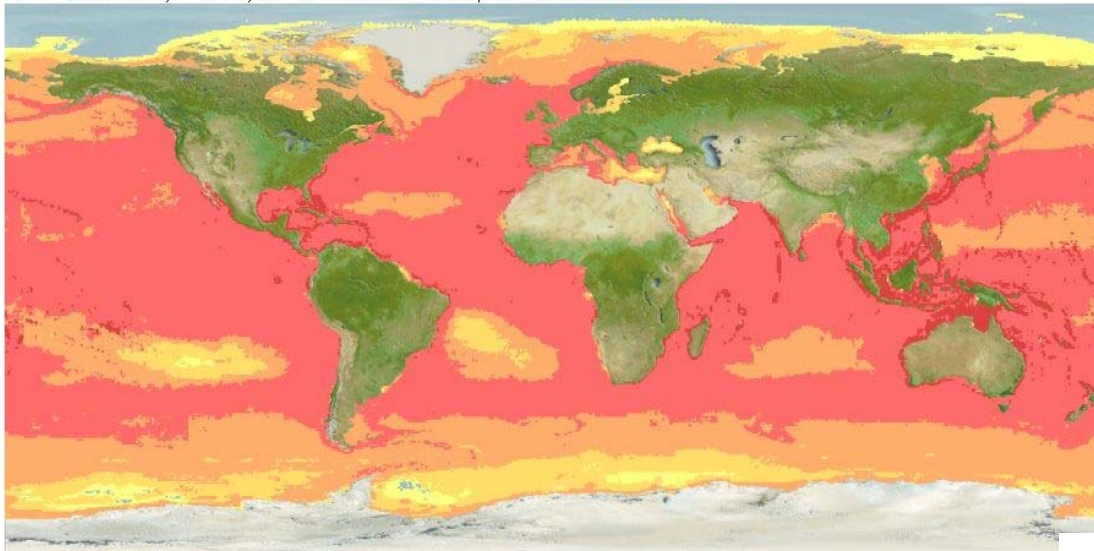
AquaMaps (08/2010):
Standardized distribution maps for currently 11,500 species of fishes, marine mammals and invertebrates.

AquaMaps is a joint project of [FishBase](#) and [SeaLifeBase](#).

[Home](#) | [About AquaMaps](#) | [Tools](#) | [Environmental Data](#) | [Services](#) | [Freshwater AquaMaps](#) | [High Resolution Maps](#)

Marine Biodiversity Map: click on the map to obtain local species list for that area.

All Sharks & rays Bony fish Invertebrates Deep-sea Marine mammals



Data sources: GBIF OBIS

Common Name

contains

(e.g. blue whale)

<http://www.aquamaps.org>

888	-	4844
164	-	887



AquaMaps: standardized distribution maps

- Practical exercise
 - Search for predicted model distribution of *Salmo trutta*

OBIS: Ocean Biogeographic Information System

OBIS strives to document the ocean's diversity, distribution and abundance of life. Created by the Census of Marine Life, OBIS is now part of the Intergovernmental Oceanographic Commission of UNESCO, under its International Oceanographic Data and Information Exchange programme .



Welcome to OBIS!

Last updated on Tue, 2010-09-21 21:59. Originally submitted by evberghe on 2010-05-25 15:58.

OBIS allows users to search marine species datasets from all of the world's oceans.



With our evolving OBIS database repository, users can identify biodiversity hotspots and large-scale ecological patterns, analyze dispersions of species over time and space, and plot species' locations with temperature, salinity, and depth.

To search the database, please select the "[Search Data](#)" option in the toolbar above.

If you want to see overview maps of OBIS content and derived information, select "[Maps](#)".

Species Search

Common name contains

SEARCH OBIS PAGES

IOBIS.ORG VERSION 2

Looking for the version of the IOBIS website from before September 2010? IOBIS version 2 is still running here

RECENT NEWS

2010-09-21
Launch of the new OBIS web site imminent
2010-09-02
Prototype OBIS web site becomes available
2010-09-02
IndOBIS node manager on study visit
2010-08-02
New Data on OBIS
2010-0
New m

<http://www.iobis.org>



OBIS: Ocean Biogeographic Information System

- Practical exercise
 - Search for *Salmo salar* distribution

National Biological Information Infrastructure (NBII)

The National Biological Information Infrastructure (NBII) is a broad, collaborative program to provide increased access to data and information on the nation's biological resources. The NBII links diverse, high-quality biological databases, information products, and analytical tools maintained by NBII partners and other contributors in government agencies, academic institutions, non-government organizations, and private industry.

nbii National Biological Information Infrastructure

Geospatial | Advanced | Help

search

NBII Home About NBII Plants, Animals & Other Organisms Habitats Ecological Topics Geographic Perspectives Toolkit

Fisheries & Aquatic Resources

NBII Home > Plants, Animals & Other Organisms > Fisheries & Aquatic Resources > Live Maps and Data > Live Maps and Data

Fisheries & Aquatic Resources

Live Maps and Data

Global

National

Regional

NOAA Fisheries GIS Data

The National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service offers downloadable GIS data and online mapping applications. Below is a list of live maps and fisheries data that can be accessed through the site:

- NMFS Alaska Maps and Images
- Stellar Sea Lion Research Areas
- Northeast Fisheries Science Center Trawl Data Mapper
- National Estuaries Restoration Inventory
- Pacific Coastal Salmon Recovery Fund
- NOAA Coral Reef Information System (CoRIS)
- NOAA Essential Fish Habitat Mapper
- Gulf of Mexico Fisheries Data Viewer
- SWFS Molecular Genetics Sample Archive

Fisheries & Aquatic Resources Mapper

Featured databases and data:

- Global: resources serve information on a global scale
- National: resources are available for the entire United States
- Regional: resources are available for a specific region

Selected Species: ATLANTIC SALMON found

Date	Size Group	Gear	CPUE/TN	Count
Sep 10, 1997	0	Electrofishing	0	2

152 surveys found at 96 locations

Discover the Nation

Avibase

Avibase is an extensive database information system about all birds of the world, containing over 5 million records about 10,000 species and 22,000 subspecies of birds, including distribution information, taxonomy, synonyms in several languages and more. This site is hosted by Bird Studies Canada, the Canadian copartner of Birdlife International. Avibase has been a work in progress since 1992.

Avibase - the world bird database

Bird checklists - taxonomy - distribution - maps - links

- Home
- Checklists
- Search
- Families
- Compare lists
- Range maps
- Birdlinks
- Trip reports
- Web Service
- Contribute

Quick search:

Avibase is also available in the following languages:

- English
- Spanish
- French
- German
- Hungarian
- Indonesian
- Italian
- Dutch
- Portuguese
- Swedish
- Catalan



Welcome to Avibase



Avibase is an extensive database information system about all birds of the world, containing over 5 million records about 10,000 species and 22,000 subspecies of birds, including distribution information, taxonomy, synonyms in several languages and more. This site is managed by Denis Lepage and hosted by Bird Studies Canada, the Canadian copartner of Birdlife International. Avibase has been a work in progress since 1992 and I am now pleased to offer it as a service to the bird-watching and scientific community.

© Denis Lepage 2010

Enter a bird name (or partial bird name) in any language or select a bird family below to find a taxon. You can use % as a wildcard in the middle of the name to replace any characters (eg. colo%red will return coloured and colored).

[Advanced search](#)
[Search by family](#)
[Checklists by regions](#)



Number of records currently in Avibase: **5,246,784** - Last update: **2010-09-07**

Avibase blog - [Avibase on Twitter](#)

2010-10-07: I recently received a copy of a book entitled "South Pacific Birds, revised and updated 2nd edition", published in 2010 by John E. duPont. This is the second edition of a book that first appeared in 1976, and which covers the avifauna of an vast oceanic area that includes Fiji, Tonga, Samoa, Cook, Society, Tuamotu, Marquesas, Austral, Pitcairn and Henderson Islands. Not having seen the previous edition, I cannot comment on improvements or changes from 34 years before. Even before opening the book, the first thing that one notices is that this is a heavy book, the type that you probably want to read on a desk rather than carry in the field, even at only 225 pages. It many things that I like about the book, but I see it more as a reference book than a true guide.

<http://avibase.bsc-eoc.org>



Avibase

- Practical exercise
 - Search for *Apus apus*

Others: The reptile database

The Reptile Database is a taxonomic database that provides basic information about all living reptile species, such as turtles, snakes, lizards, and crocodiles, as well as tuataras and amphisbaenians, but does not include dinosaurs. The Reptile Database provides taxonomic information for the [Catalogue of Life](#) and the [Encyclopedia of Life](#).



THE REPTILE DATABASE
www.reptile-database.org

The Reptile Database

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You are here » home

The Reptile Database

Overview

The Reptile Database is a taxonomic database that provides basic information about all living reptile species, such as turtles, snakes, lizards, and crocodiles, as well as tuataras and amphisbaenians, but does not include dinosaurs.

Currently there are about 9,200 species and an additional 3,200 subspecies making reptiles the largest vertebrate group after fish (~25,000 species) and birds (~10,000 species), and significantly larger than mammals (~5,000 species) or amphibians (~6,000 species).

The Reptile Database provides taxonomic information for the [Catalogue of Life](#) and the [Encyclopedia of Life](#). Our taxonomic information has also been used by GenBank and many other resources and is the only comprehensive reptile database on the web.

The reptile database can be used to find all species within a certain geographic area (e.g. all snakes of Egypt). Its collection of more than 2,500 images allow users to identify a species or at least get an idea how the species or genus may look like. Nearly 25,000 references provide a guide to further information.

[^ To top of page](#) • [Print page](#)

This database is maintained by Peter Uetz (database content) and Jakob Hallermann, Zoological Museum, Berlin. Web pages and scripting Jiri Hosek



<http://reptile-database.reptarium.cz>


Others: Amphibiaweb.

A M P H I B I A W E B

AmphibiaWeb is an online system that provides access to information on amphibian declines, conservation, natural history, and taxonomy.

See what's **New** on AmphibiaWeb.

- [Search the Database](#) 
- [Browse by Family](#) 
- [Country Search](#) 
- [Amphibian Declines](#) 
- [Site Map](#) 
- [About AmphibiaWeb](#) 
- [Make a Donation](#) 





Species of the Week:
Schistometopum thomense




Photo © by Robert Drewes

Amphibian News!

During metamorphosis, the skeletons of amphibians change dramatically. In a recent study published in the Journal of Zoological Systematics and Evolutionary Research, Weisbecker & Miguttsch (2010) investigate the degree to which these patterns of skeletal change are conserved across the evolutionary history of frogs. After analyzing a compilation of data on ossification sequences from past literature, the authors find relatively little conservation of developmental patterns. The authors include data for both miniature species and those with derived life histories (such as direct development), but, importantly, do not find a clear relationship between patterns of ossification sequence and these important organismal traits.

Current number of amphibian species: 6,749 (Oct 25, 2010)

AmphibiaWeb is an online system enabling anyone with a Web browser to search and retrieve information relating to amphibian biology and conservation. This site was inspired by the global declines of amphibians, the study of which has been hindered by the lack of multidisciplinary studies and a lack of coordination in monitoring, in field studies, and in lab studies. We hope AmphibiaWeb will encourage a shared vision for the study of global amphibian declines and the conservation of remaining amphibians. AmphibiaWeb was created in conjunction with the Digital Library Project at the University of California, Berkeley.

Others: HerpNet, Manis, Ornis, FishNet2, VertNet.

HerpNET is a collaborative effort by natural history museums to establish a global network of herpetological collections data, funded by the [National Science Foundation](#) and a [GBIF](#) DIGIT grant. **Sixty-four institutions** are participating in the HerpNet community, with an open ended invitation to institutions who would like to **join**. Currently **55** institutions are available on the **specimen searching portal**, with data from over **5.5** million specimens available for searching.

[Search Specimens](#)

General Information:

- [Participating Institutions](#)
- [Documents](#)
- [Join HerpNet](#)
- [Contacts](#)
- [Final Report Highlights](#)

Georeferencing:

- [Workshops](#)
- [GIS/Georef Resources](#)
- [Resources En Español](#)
- [Gazetteer](#)
- [Checklist](#)
- [Repatriation Fields](#)
- [Georeferencing Calculator](#)
- [BioGeomancer](#)

Related Projects:

- [VertNet](#)
- [ORNIS](#)
- [MaNIS](#)
- [AmphibiaWeb](#)



HerpNet is a collaborative effort by natural history museums to establish a global network of herpetological collections data, funded by the [National Science Foundation](#) (NSF No. 0132303) and a [GBIF](#) DIGIT grant. [Sixty-four institutions](#) are participating in the HerpNet community, with an open ended invitation to institutions who would like to [join](#). Currently [55](#) institutions are available on the [specimen searching portal](#), with data from over 5.5 million specimens available for searching.



VertNet: The Future
HerpNet, ORNIS, MaNIS and FishNet2 are taxon-based web portals that now serve georeferenced data on vertebrates from over 71 global institutions. Together these comprise [VertNet](#), a cooperative project working to maintain and expand these distributed database projects. Future plans include biodiversity informatics workshops, enhancement of the portal design, better searching capabilities, and a dynamic cloud-based platform to expand performance, sustainability, annotation and analytic features.


National Biological Information Infrastructure

Comments and questions should be directed to the HerpNet Coordinator: [Carol Spencer](#)
Sauromalus ater photo by Glenn and Martha Vargas © at [CalPhotos](#).



<http://www.herpnet.org/>

Others: HerpNet, Manis, Ornis, FishNet2, VertNet.

With support from the National Science Foundation, seventeen North American institutions and their collaborators developed the **Mammal Networked Information System**. The original objectives of MaNIS were to 1) facilitate open access to combined specimen data from a web browser, 2) enhance the value of specimen collections, 3) conserve curatorial resources, and 4) use a design paradigm that can be easily adopted by other disciplines with similar needs.



With support from the National Science Foundation, seventeen North American institutions and their collaborators developed the Mammal Networked Information System. The original objectives of MaNIS were to 1) facilitate open access to combined specimen data from a web browser, 2) enhance the value of specimen collections, 3) conserve curatorial resources, and 4) use a design paradigm that can be easily adopted by other disciplines with similar needs. As an NSF-funded initiative, MaNIS has achieved these objectives while avoiding the need for long-term, external maintenance of the network and centralized data management.

As MaNIS faces the future, it is only through expansion of the network, both nationally and internationally, that the real impact of this collaborative effort will be maximized. Participation by other institutions is now welcome and those wishing to join have at their disposal the data standards, software and documentation that were developed for this project. All that is asked of future participants is that they make the same institutional commitment as the original collaborators — to maintain their repositories of high-quality specimen collections and make the accompanying data available for the benefit of all.

At the time of its inception, development of MaNIS addressed the urgent call for natural history museums to come together to build and support a biodiversity informatics infrastructure to facilitate and enhance research, education, conservation, and public health. That call has now been answered. It is hoped that continued expansion of the network will allow the preservation and sustainable use of biodiversity in all its complexity as we attempt to address the magnitude of human impacts on the Earth's ecological systems during the 21st century.

[Home](#) | [Data Portals](#) | [Documents](#) | [Events](#) | [Contacts](#) | [Georeferencing](#) | [Join MaNIS](#)

John Wieczorek, 27 June 2001

Rev. 4 Jun 2010, JRW

<http://manisnet.org/manis/>

Others: HerpNet, Manis, **Ornis**, FishNet2, VertNet.

Over 5 million bird specimens are housed in North American collections, documenting the composition, distribution, ecology, and systematics of the world's estimated 10,000-16,000 **bird species**. Millions of additional observational records are held in diverse data sets. ORNIS addresses the urgent call for increased access to these data in an open and collaborative manner, and involves development of a suite of online software tools for data analysis and error-checking

ORNIS Search this site

- Home
 - Announcements
 - Contacts
 - Documents
- Data Providers
- Data Search
 - Query Instructions
- DiGIR
- Georeferencing
 - Workflow (< 26 Oct 2007)
 - Workflow (> 26 Oct 2007)
 - Checklist
 - Workshops
 - Repatriation Guide
 - Results
- Links
- Software Tools
 - Taxonomic Standardization
 - Locality Consistency
 - Species Ecology
 - Collector Itineraries
- Sitemap

Over 5 million bird specimens are housed in North American collections, documenting the composition, distribution, ecology, and systematics of the world's estimated 10,000-16,000 bird species. Millions of additional observational records are held in diverse data sets. ORNIS addresses the urgent call for increased access to these data in an open and collaborative manner, and involves development of a suite of online software tools for data analysis and error-checking. This project, funded by the [National Science Foundation](#), expands on existing infrastructure developed for distributed mammal ([MaNIS](#)), amphibian and reptile ([HerpNet](#)), and fish ([FishNet](#)) databases. Improved access to avian data sets will allow predictive uses to reveal patterns and processes of evolutionary and ecological phenomena that have not been apparent heretofore. Along with similar infrastructures for other vertebrate groups, it also will enable detailed and synthetic knowledge of the earth's biodiversity for tracking climate change, emerging diseases (e.g., West Nile Virus), and other conservation challenges for species in the 21st century.

- View data provider list. 46 data providers, 42 searchable. Both specimen and non-specimen (e.g., observational) data, totaling over 3.85M and 37M records, respectively.
- View map of data provider locations.
- Read news and announcements.
- Search data (Instructions).

NSF nbi National Biological Information Infrastructure Ver+Ne BETA GBIF

Subpages (3): [Announcements](#) [Contacts](#) [Documents](#)

[Acceder](#) [Actividad reciente del sitio](#) [Condiciones](#) [Informar de abusos](#) [Imprimir página](#) | Tecnología de [Google Sites](#)

<http://www.ornisnet.org/>

Others: HerpNet, Manis, Ornis, **FishNet2**, VertNet.

FishNet is a collaborative effort by natural history museums and other biodiversity institutions to establish a **global network of Ichthyology collections**. There is an open invitation for any institution with a fish collection to join.



Searching over 20 million fish specimens in 29 institutions worldwide.



[Home](#) | [Search Portal](#) | [Partner Institutions](#) | [Join FishNet](#) | [Contact Us](#) | [Help](#)

- ▶ [News](#)
- ▶ [Funding](#)
- ▶ [Data Policies](#)
- ▶ [Georeferencing](#)
- ▶ [Documents](#)
- ▶ [Links](#)

What is FishNet?

FishNet is a collaborative effort by natural history museums and other biodiversity institutions to establish a global network of Ichthyology collections. There is an open invitation for any institution with a fish collection to [join](#).

The current portal is an outgrowth of the original FishNet project with improvements in network stability, georeferencing capabilities, and technical support. Users are provided access to searchable, mappable and downloadable data that are cached on a regular basis from participating institutions who have published their data via the [DiGIR](#) or [TAPIR](#) protocols with a [Darwin Core](#) schema.

FishNet is also one of four (along with [MaNIS](#), [HerpNet](#), and [ORNIS](#)) vertebrate network portals that provide access to specimen collection records from around the world. These web portals, together, comprise [VertNet](#) and serve georeferenced, taxon-based data from 72 global institutions.

[VertNet](#) is a cooperative project working to maintain and expand these distributed database projects. Future plans for [VertNet](#) include biodiversity informatics workshops, enhancement of the portal design, better searching capabilities, and a dynamic cache to expand performance and analytic features.

Basic Search [more>>](#)

Scientific Name	<input type="text"/>
Catalog Number	<input type="text"/>
Continent/Ocean	<input type="text"/>
Country	<input type="text"/>
State/Province	<input type="text"/>
County/Area	<input type="text"/>

or try the [advanced search](#)

News Update [more>>](#)

01/26/10 - [FishNet email announcement sent...](#)

01/26/10 - [FishNet portal ready for testing...](#)

12/3/09 - [New resource added...](#)

<http://www.fishnet2.net/index.html>

Others: HerpNet, Manis, Ornis, FishNet2, VertNet.

VertNet is a global museum database of vertebrate natural history collections. Four distributed database networks (MaNIS, HerpNET, ORNIS and FishNet) have been the result of a massive, collaborative effort within the museum and bioinformatics communities to make specimen data interoperable, mappable and publicly available. VertNet was formed as an **umbrella project** to meet the common needs of the participants, maintain the existing networks, add new members and develop integrated online technologies.

VertNet News

A georeferencing workshop will be held in Tanzania, Oct. 25-29. (10.07.2010)

- A [georeferencing workshop](#) was held Aug. 23-27 at Yale University. (08.30.2010)
- A one-day [georeferencing workshop](#) was held June 5 in conjunction with the [SPNHC](#) and was s
- A [Darwin](#) Mar. 13-1

Zoology at UC Berkeley. The workshop was organized by the

VertNet Networks

[MaNIS](#), [HerpNET](#), [ORNIS](#) and [FishNet](#) are taxon-based, distributed database networks of natural history collection data. Each network has a separate search portal that is designed to query the participating institutions and return results in a standardized format. You can search for collection data as well as map

- [Learn about VertNet](#)

VertNet Publishers

Currently, across four portals, there are 72 unique institutions globally with 59 more who have committed to or expressed interest in participating. Together, these networks provide open access to approximately 84.3 million vertebrate records.

collection that
Review the
[network](#).

<http://www.vertnet.org/index.php>

And of course...

Spanish GBIF Node / Nodo Español de GBIF

Home | Data | Funding | Participants | Software | Portals

Global Biodiversity Information Facility in Spain

The Global Biodiversity Facility GBIF is an inter-governmental organization borned in 2001 that create GBIF is a network of national nodes with an international mandate settled in Copenhagen. The main goal is to support biodiversity data supporting at the same time scientific research, conservation and sustainable development.

October the 1st, 2010

ATUTOR E-Learning Workshop on Data Quality in biodiversity databases.
 In November 2010 GBIF-ES starts its first E-Learning workshop on Data Quality addressed to people who work with biological databases: both those working in natural history museums and those working in related databases. The principles of data quality will be revised together with methodology. The course will be developed using the Source Web-based Learning Management System (LMS) used to develop and deliver e-learning courses. The call of the workshop will open together with the rest of the course's materials. The call of the workshop will open together with the rest of the course's materials. The call of the workshop will open together with the rest of the course's materials.

September the 4th, 2010

Encuesta GBIF position paper on Vocabularies/Ontologies: invitation to participate in survey.
 GBIF is pleased to announce that in response to the call for proposals to develop a position paper on the development, maintenance and governance of vocabularies and ontologies for the GBIF, the contract for the development of the position paper has been awarded to the Harvard University Herbaria & Plazi Verein. In order to gather experiences, needs, and resources already in place about Knowledge Organisation for the GBIF, a survey has been developed. The survey is available at <http://surveymonkey.com/GBIFKDSurvey> to participate in the (brief) survey.

GBIF Spain Data

Institutions	54
Databases	140
Records	6,365,128

Events October

The 17th GBIF Governing Board Meeting

free and open access to biodiversity data

GLOBAL BIODIVERSITY INFORMATION FACILITY

Search

GBIF celebrated IYB in Copenhagen

REPORT ON 'HINDU KUSH-HIMALAYAN REGION WORKSHOP' PUBLISHED

INFORMATICS

- Infrastructure
- Discovery/Metadata
- Primary Data
- Name Services
- Standards and Tools

PARTICIPATION

- Participant Nodes
- Data Publishers
- Training
- Outreach
- Being a Part of GBIF

GOVERNANCE

- Governing Board
- Advisory Committees
- Partnerships
- Secretariat
- Finance

COMMUNICATIONS

- News and Events
- Resources
- Press
- Contact us
- Directory of Contacts

2010 Global Biodiversity Information Facility supports the International Year of Biodiversity 2010

About GBIF | Glossary | Contact Us | [Data Portal](#)



GBIF INITIATIVE



Introduction

Global Biodiversity Information Facility

Infraestructura Mundial de información en Biodiversidad

- [Global Biodiversity Information Facility](#) is an international government-initiated and funded initiative focused on making the world's biodiversity data freely and universally available via the Internet.
- At the request of **OECD** (1996, MegaScience Forum)
- Ordinary **members** are countries
- Participant countries contribute economically to GBIF and undertake to establish a **national node** that is information portal.





Introduction

- Provides primary scientific biodiversity data useful for science, decision making, general public...
- Dynamic Network of data holders, users, and other stakeholders to promote, facilitate, and coordinate the biodiversity data sharing activities.
- Data holders always maintain control over their published data.
- Biodiversity primary data are provided both for developed and developing countries. In this sense data sharing with countries of origin is one of GBIF objectives to help redress the asymmetry with regard to data about where species occur.



GBIF Chronology

June 1999	Agreement for the establishment of GBIF (Meeting of the OECD Committee for Scientific and Technological Policy at Ministerial Level)
December 2000	Memorandum of Understanding
March 2001	GBIF is officially born
2002	GBIF International Secretary is established in Copenhagen
2003	First Work Plan
2007-2011	Latest strategic plan

GBIF basic principles

- Original data are never ‘handed over’ to GBIF, always remain under the direct control of their originators and curators, data providers. In order to an adequate attribution of use, a Data Use Agreement is accepted by all data users prior to any search of information.
- Collaboration in initiatives with common objectives to avoid duplicity of efforts.
- Globally distributed network of interoperable databases not centralized and based on open standards.

GBIF: Why and what for?

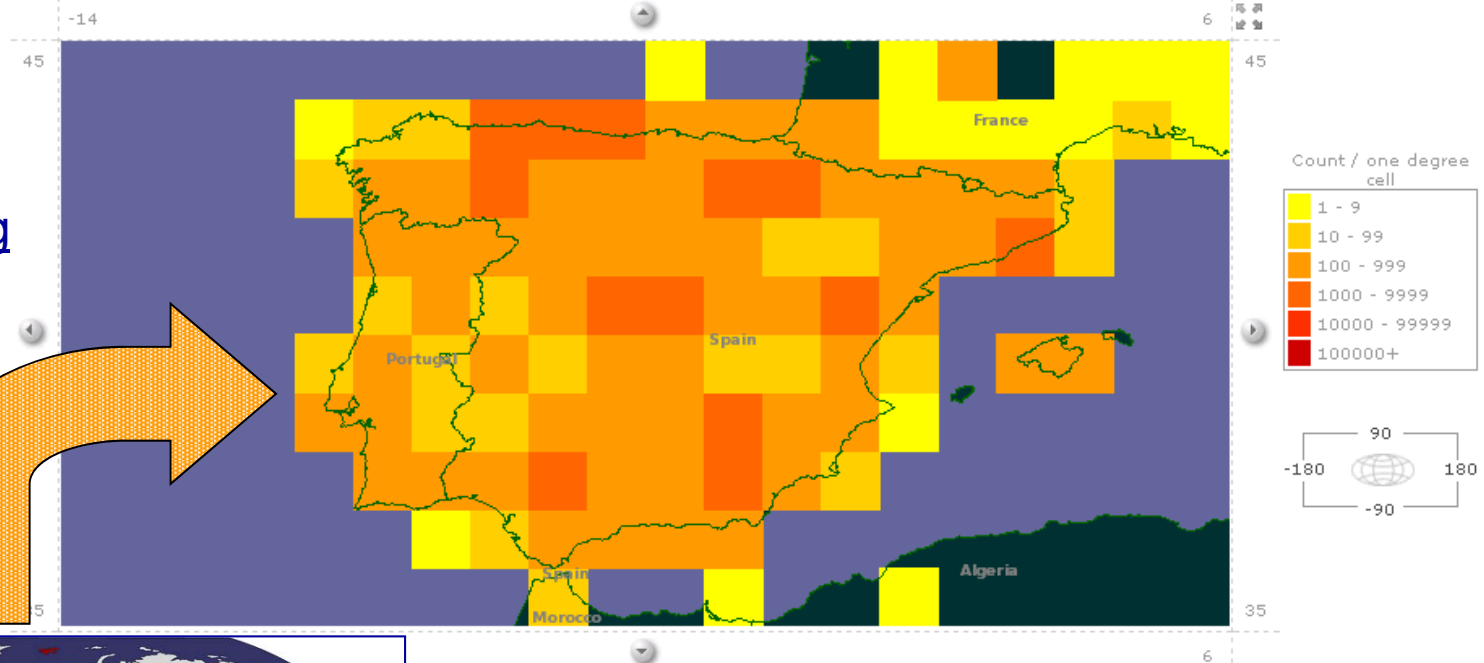
- Troubles to access biodiversity information, due to:
 - Biodiversity information is **broadly scattered**. 
 - Relatively **low digitization of primary biodiversity data**.
 - **Publication** is focused to results more than primary data used to accomplish those. 
 - Complexity of biodiversity information: need of **standardization**.



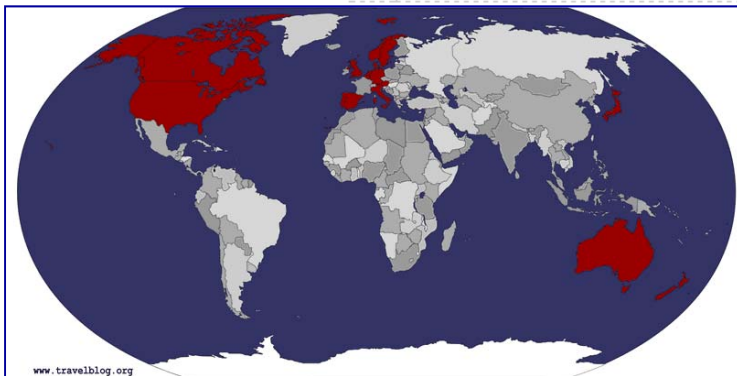
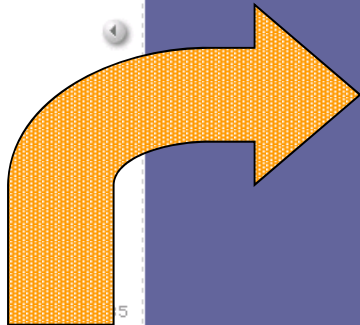
Spread of biodiversity information.

An example: Fungi of the Iberian Peninsula

Occurrence overview



<http://data.gbif.org>



There are **45,015** occurrences within the viewed area. This shows only records from the GBIF network and may not properly represent the total distribution of Fungi.

46 data bases

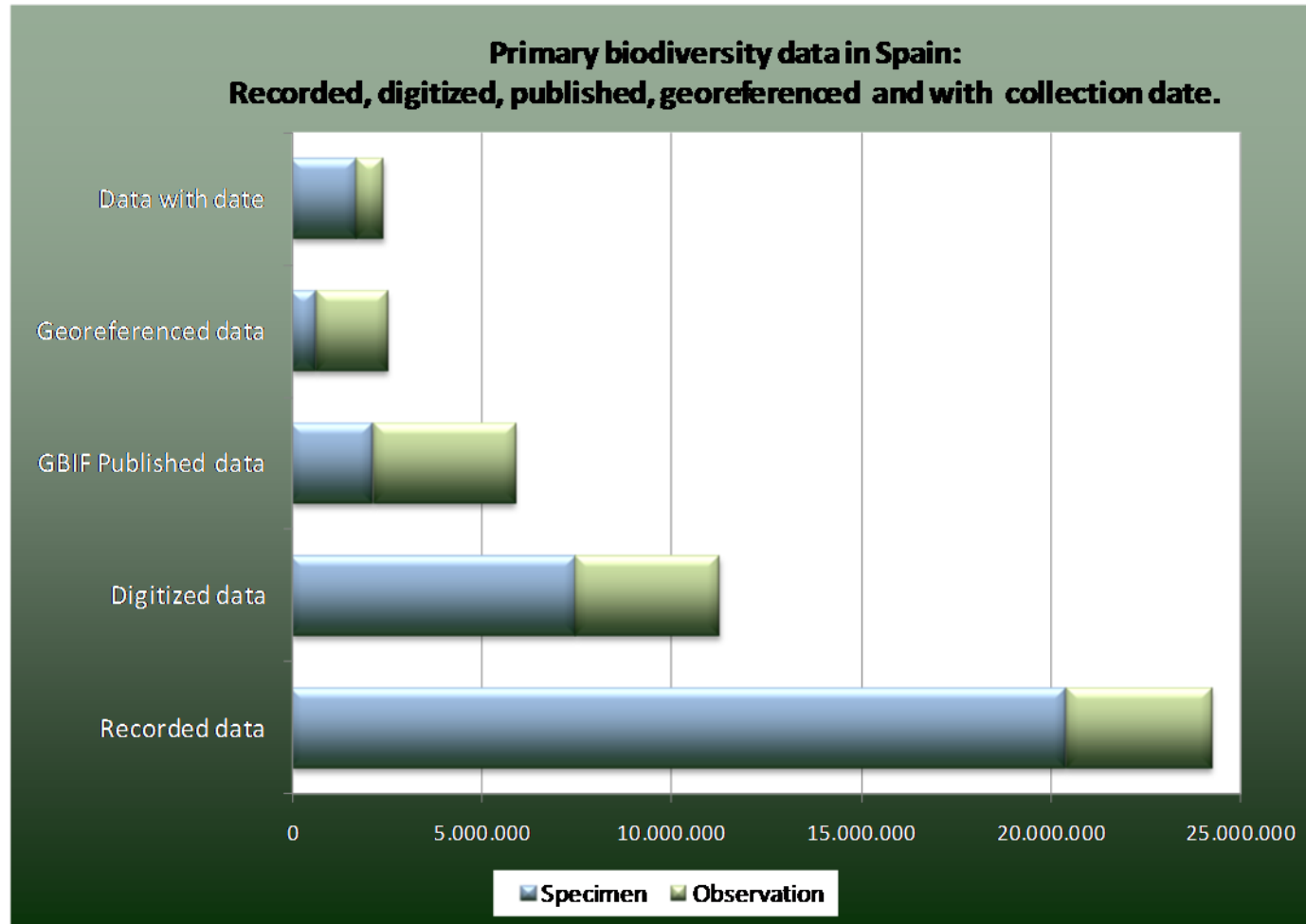
16 countries

45.000 records with coordinates



Digitization of primary biodiversity data

An example: Spanish biodiversity data



So, GBIF what for?

- Trying to solve those troubles:
 - GBIF provides **free and open access to biodiversity data**
 - A **unified access** point to all the data shared using the GBIF network, that is the GBIF data portal.
 - **Promoting digitization** and mobilization of primary biodiversity data (DIGIT programme).
 - **Promoting the use of open standards**: the use of standards is essential to ensure interoperability among distributed databases, especially in a global network of data publishers.



GBIF SPAIN



GBIF Spain

Global Biodiversity Information Facility

HOME > ABOUT GBIF > IMPORTANT DOCUMENTS > Memorandum of ...

Memorandum of Understanding

**MEMORANDUM OF UNDERSTANDING
FOR THE GLOBAL BIODIVERSITY
INFORMATION FACILITY**

TABLE OF CONTENTS to download the document click [here](#) (word file, 109 KB)

	PREAMBLE
Paragraph 1	DEFINITIONS
Paragraph 2	UNDERSTANDINGS
Paragraph 3	OBJECTIVES

BOE núm. 166

13959 RESOLUCIÓN de 12 de junio de 2002, de
 Estado de Política Científica, Tecnológica
 y Económica, por la que se aprueba el Plan
 de Investigación Científica y Tecnológica
 de España para el período 2002-2006.

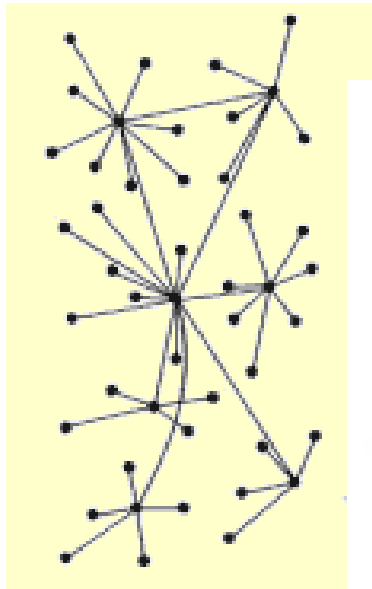
La Comisión Interdepartamental de Investigación Científica y Tecnológica (CICYT) es el órgano
 Nacional de Investigación Científica y Tecnológica.



2001 mar.	Spain signed MoU
2002 june	Legal resolution in BOE, The Ministry of Science and Innovation entrusts Spanish National Research Council (CSIC) with the implementation of GBIF Spain.
2003 june	The Unit of Coordination begins to work
2003 nov.	www.gbif.es
2004 jan.	First data of Spanish data providers published on www.gbif.org
2005	Training program starts

GBIF Spain

- Network structure (Unit of Coordination + Institutions and Projects)
- Unit of Coordination is part of CSIC
- The structure of GBIF Spain reflects the structure of GBIF



- Unified access
- Distributed information
- Original data remain under the direct control of their originators.

GBIF Spain: main activities

- Data digitization.
- On line Data publication.
- Survey of natural history collections, projects and biodiversity data bases in Spain (<http://www.gbif.es/InformeColecciones.php>).
- To encourage and support the activities of the Participant's data providers to both **contribute and use GBIF-served data**
- To develop software applications, freely and openly **offered to the Spanish scientific community** to facilitate data sharing through GBIF initiative.
- Communication (www.gbif.es) and data portals (www.gbif.es/datos)
- Data hosting services
- Training in bioinformatics
- Information dissemination activities
- Promoting and facilitating participation in GBIF
- International cooperation (TDWG, GBIF Secretariat, another nodes)

GBIF Spain: Data publishers

http://www.gbif.es/Participacion_gbif.php





AS A RESULT: DATA PORTAL AND EXAMPLES OF SEARCHES

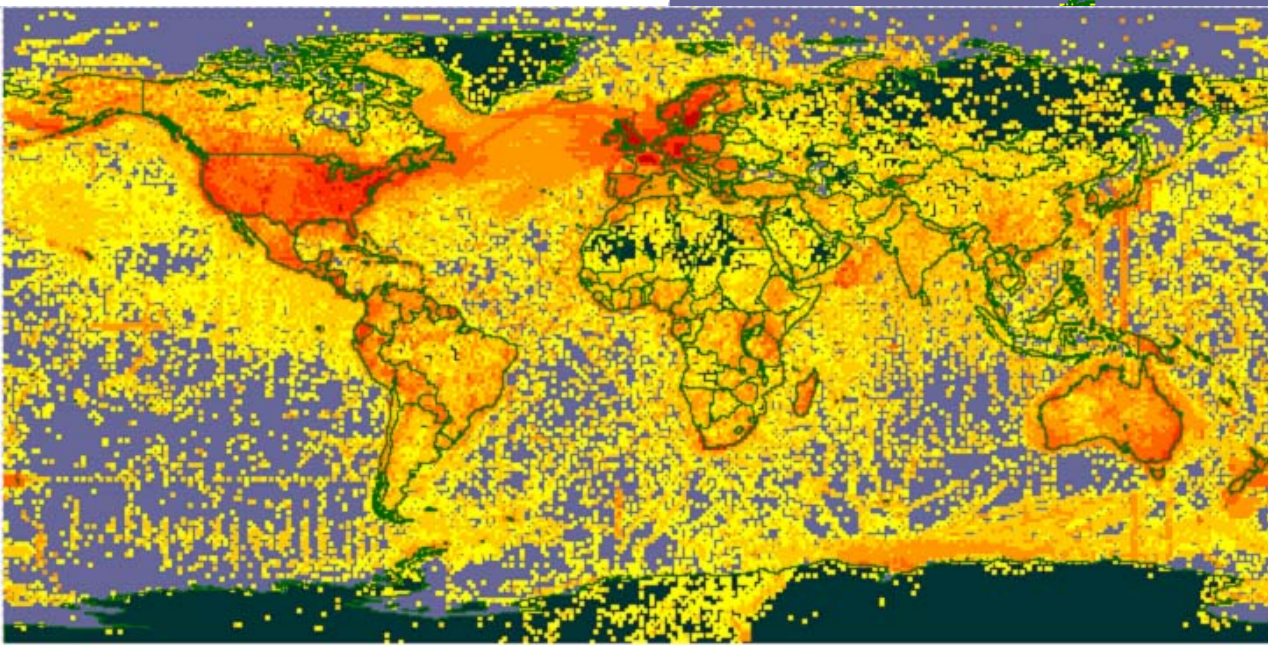
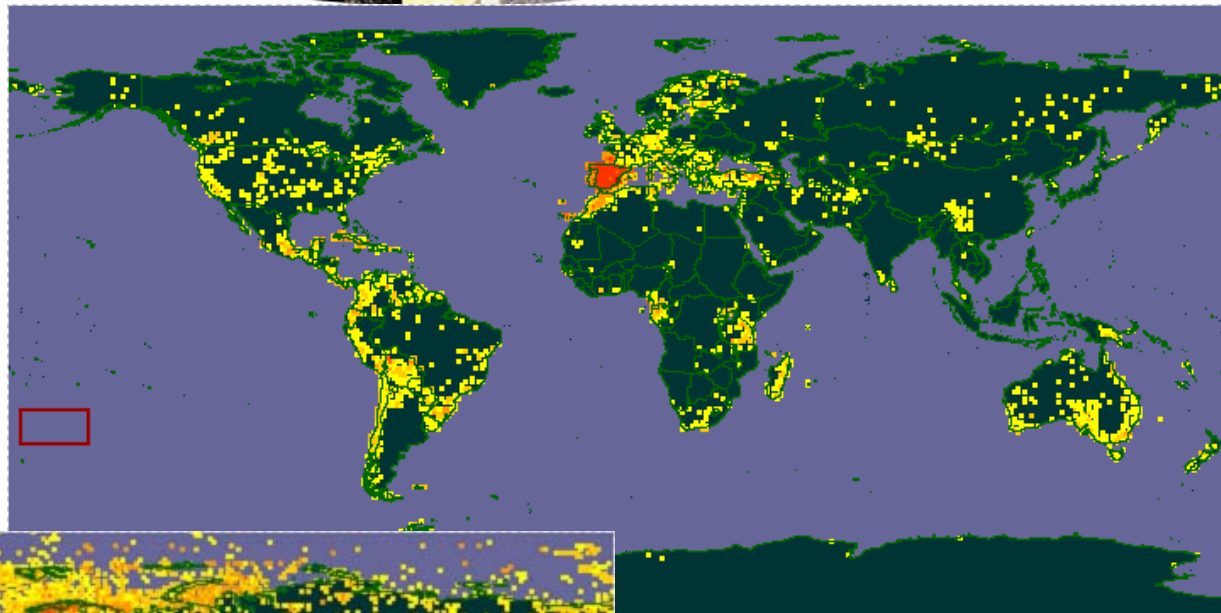


GBIF Network

GBIF.ES/GBIF.ORG

Data from GBIF Spain
54 institutions
140 databases
6.367.437 records

<http://www.gbif.es/datos>



GBIF globally
10.359 databases
216.970.036 records

<http://data.gbif.org>



Spanish data portal



<http://www.gbif.es/datos>



Internacional data portal



GBIF-WCMC Widget for protected areas and biodiversity



PRACTICAL CASES

Practical cases, international portal and others

1. *Saprolegniales* occurrences (world): maps and species.
2. *Saprolegnia* occurrences with coordinates (world). Matching records on map.
3. *Saprolegnia anisospora* (world). Spreadsheet of results.
4. *Saprolegnia* species in Spain
5. For the species found check if they are synonyms or accepted names in the Catalogue of Life (<http://www.catalogueoflife.org>)
6. *Salmonidae* in Spain,
 - Map of results
 - list of Species in results.
 - Spreadsheet of results
7. *Oncorhynchus mykiss* distribution throughout the world. Map of results.



And to conclude...

- Biodiversity information is very scattered
- **Open, free and unified access is essential to science, decision making and conservation.**
- Data are really useful only if they are visible and then public: **primary data are as important as results obtained from them** and published in scientific journals with impact index.
- It is necessary to encourage scientists **to share primary data, especially in that groups for which information is really scarce: Saprolegniales is an example.**



Thanks!

GBIF in a nutshell

- Unified access to primary biodiversity data
- Plural participation
- Science applied to management and conservation
- Training in bioinformatics
- Connecting science and society

GBIF-ES is the GBIF National Node, and it is sponsored by the [Ministry of Science and Innovation](#) and managed by the [Spanish National Research Council \(CSIC\)](#)

WWW.GBIF.ES



2010 Año Internacional de la Diversidad Biológica

