



Global Biodiversity Information Facility (GBIF) in the Iberian Peninsula

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1st IBERLIFE Session

Summary

- What is GBIF
- How is GBIF organized
- Data in GBIF
- Use of data published through GBIF
- GBIF in Portugal and Spain
- Challenges

What is GBIF?

GBIF's vision:

"A world in which biodiversity information is freely and universally available for science, society and a sustainable future."



GBIF's mission:

To allow anyone, anywhere to access data about all types of life on Earth, shared across national boundaries via the Internet.



Establishment success of invasive ring-necked and monk parakeets in Europe

Diederik Strubbe^{*} and Erik Matthysen

Article first published online: 6 AUG 2009

DOI: 10.1111/j.1365-2699.2009.02177.x

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Issue



Journal of Biogeography
Volume 36, Issue 12, pages
2264–2278, December 2009

SEARCH

In this issue

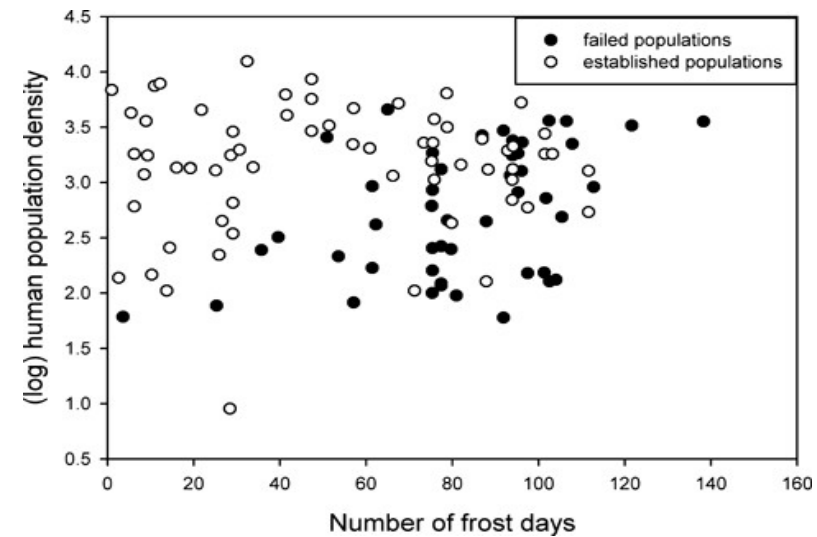
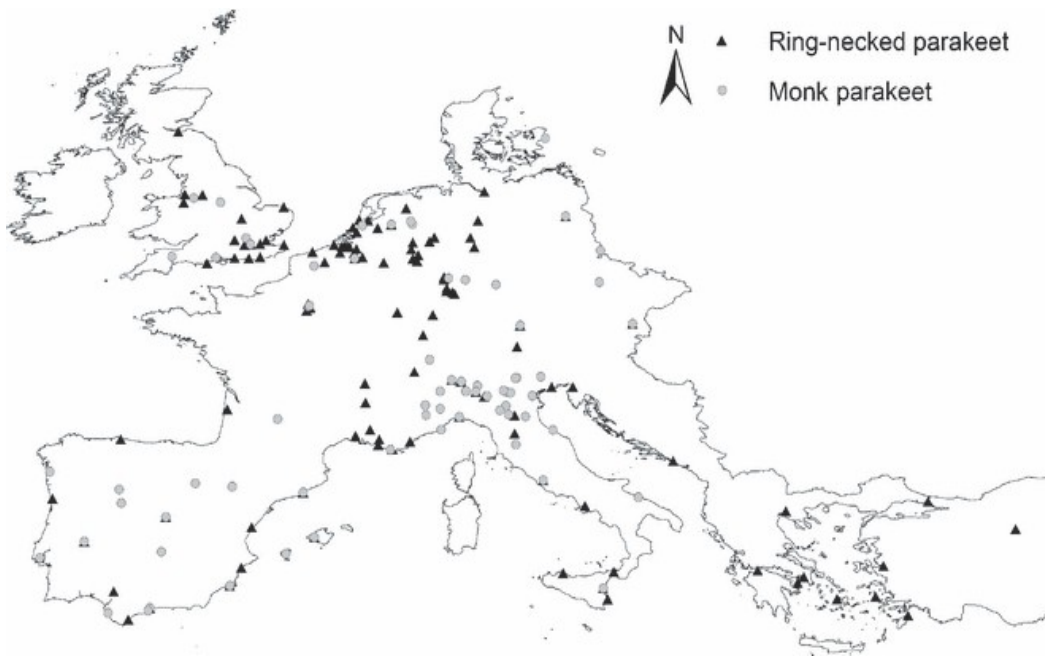
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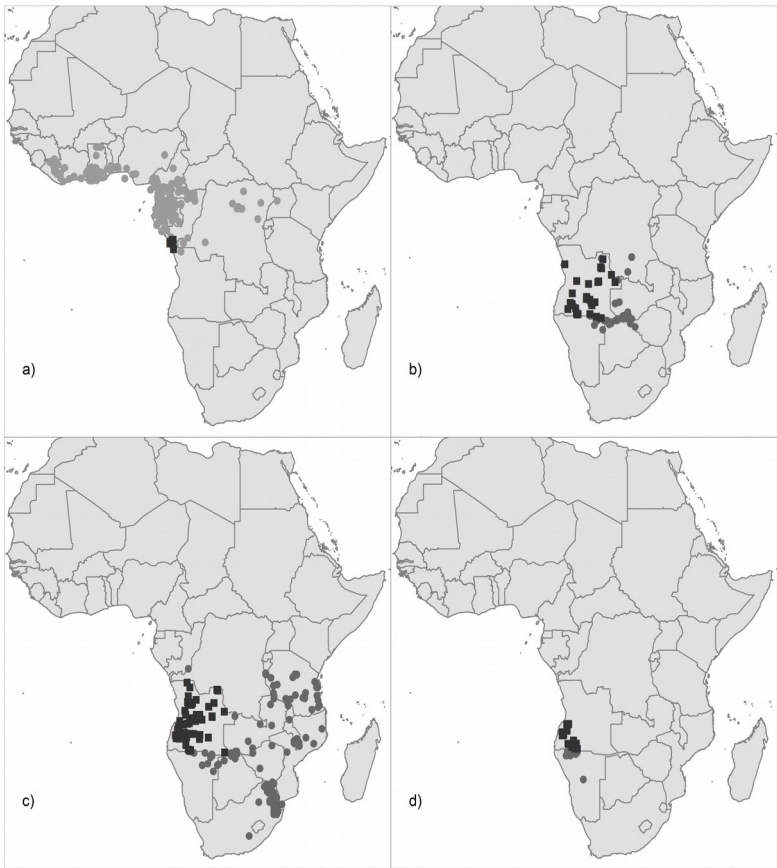
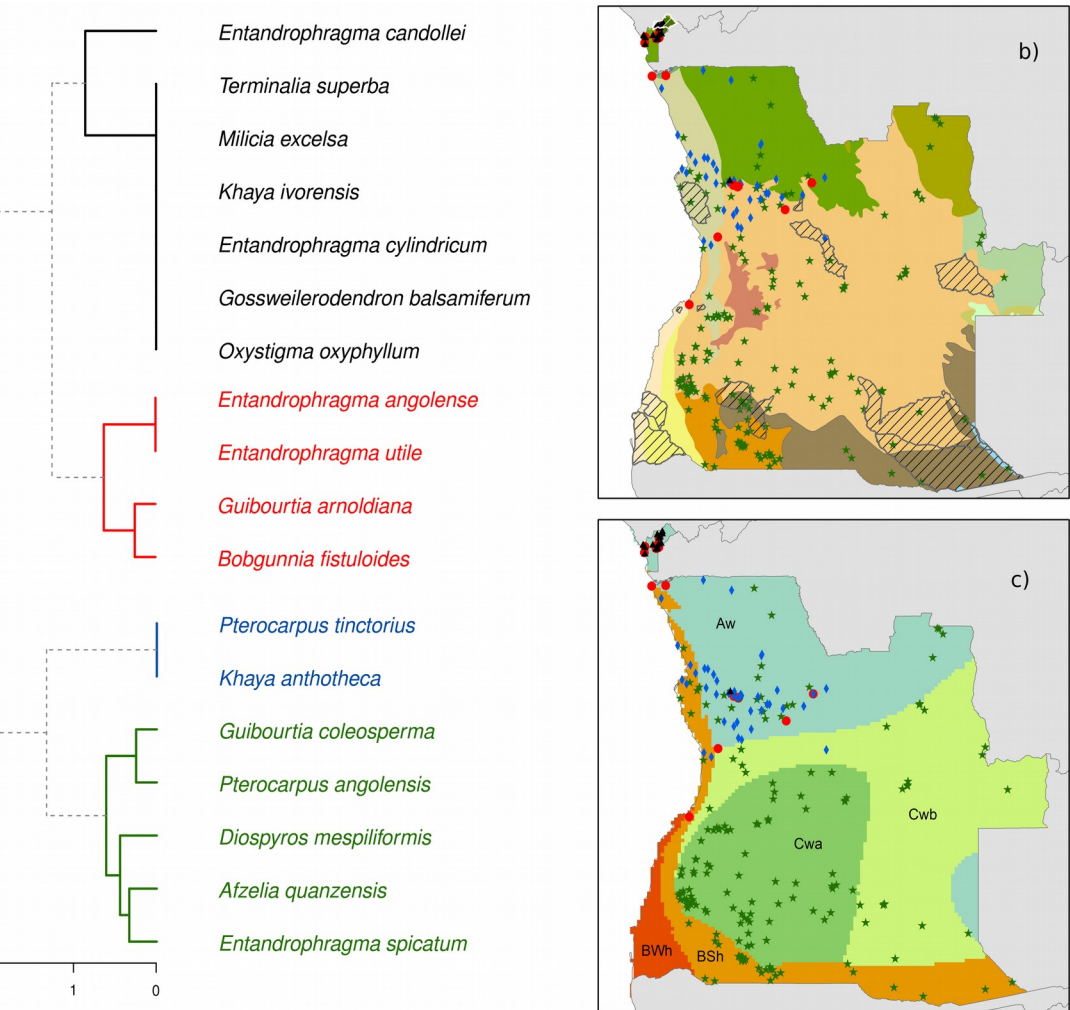
J.M.Garg - Own work



Documenting Biogeographical Patterns of African Timber Species Using Herbarium Records: A Conservation Perspective Based on Native Trees from Angola

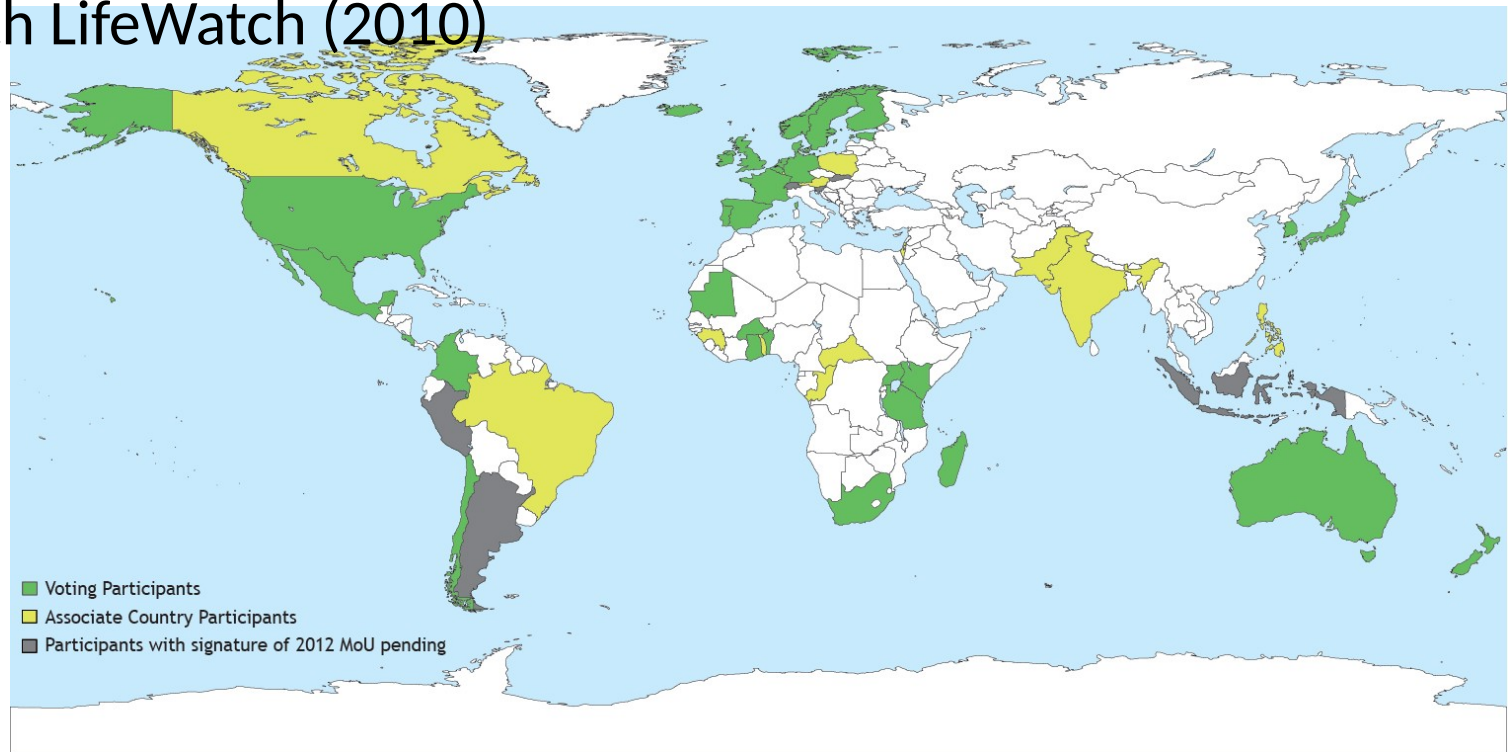
Maria M. Romeiras , Rui Figueira, Maria Cristina Duarte, Pedro Beja, Iain Darbyshire

Published: July 25, 2014 • DOI: 10.1371/journal.pone.0103403



How is GBIF organized globally?

- 52 countries - (37 voting participants+15 associated countries) and 37 associated participants
- 21 european countries
- MoC with LifeWatch (2010)



How is GBIF organized globally?

- Intergovernmental organization created in 2001
- Spain and Portugal are both founders and voting participants
- International Secretariat plus National and thematic nodes
- Nodes work closely with their communities to promote data mobilization and data use

Global biodiversity observatory - Network of networks



... and GBIF Nodes





Global Biodiversity Informatics Outlook

www.biodiversityinformatics.org

The GBIO framework



[†]Considered to be of high urgency, but have made limited progress to date



Search 15,351 datasets

or view the [publishing institutions](#)

Search for datasets by title, description, pu

Search 

12,126

occurrences datasets

3,203

checklists

www.gbif.org/dataset

Featured datasets



Records of marine molluscs of Portugal

Records of mollusc specimens collected along the coast of Portugal between 1887 and 1939.



Plant records from the Sierra Nevada mountains in Spain

Plant records from the Sierra Nevada forests, southern Spain, gathered during a long-term research project to monitor change in the area.



Citizen science observations from scuba divers via Diveboard

Species observations from scuba divers around the world registered on the citizen science platform Diveboard.

Data in GBIF

There are no GBIF data? Data are simply published through GBIF.

- each data retains its original properties set by the publisher (intellectual property, license, quality, etc)
- occurrence data:
 - species, local, date, observer/collector
 - data portal supports 150 terms of the DwC standard
 - links with multimedia data types (sounds, videos, images)
- data provided in a standard format (DarwinCore, ABCD)

Explore 527,909,781 occurrences

Occurrence records document evidence of a named organism in nature. Through this portal, you can [search](#), [view](#) and [download](#) records that are published through the GBIF network.

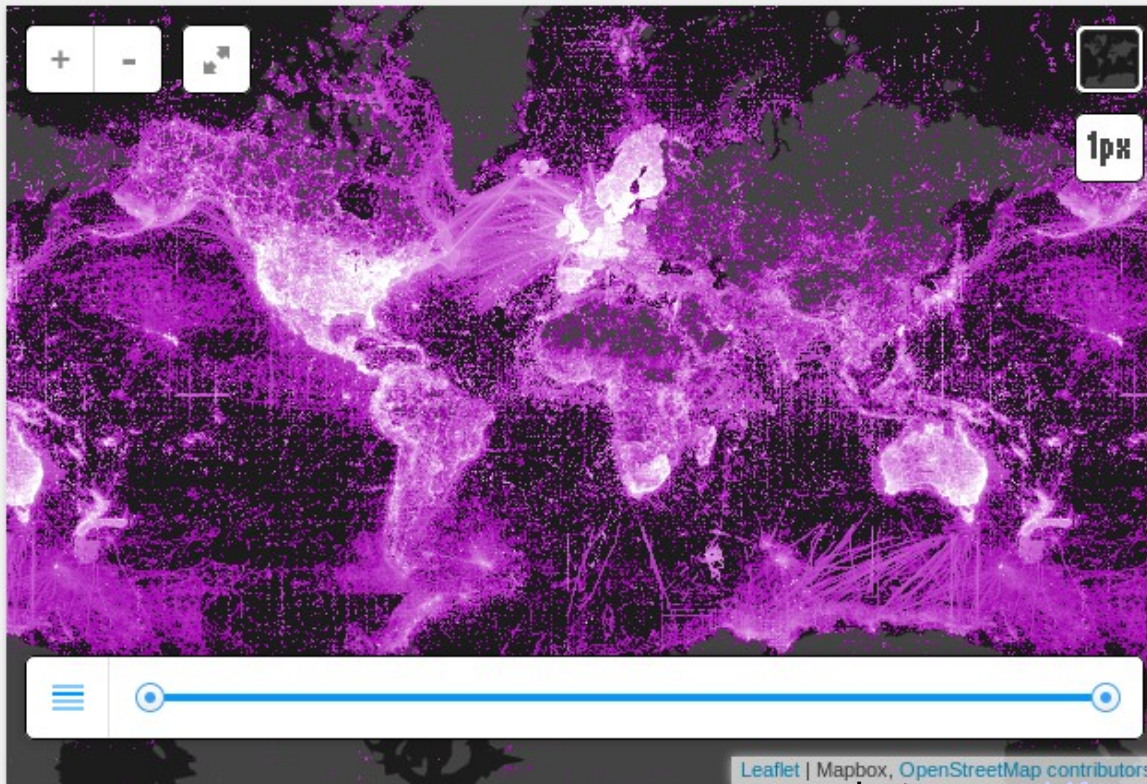
527,909,781

occurrences records

462,068,112

georeferenced records

www.gbif.org/occurrence



Georeferenced data

VIEW RECORDS

[All records](#) | [In viewable area](#)

ABOUT

This map shows the density of all 462,068,112 georeferenced occurrence records published through the GBIF network.

To explore the records, zoom into the map or click on the links above and add further filters to customize search results.

ARTICLE PREVIEW

[view full access options](#) ▶

NATURE CLIMATE CHANGE | LETTER



Quantifying the benefit of early climate change mitigation in avoiding biodiversity loss

R. Warren, J. VanDerWal, J. Price, J. A. Welbergen, I. Atkinson, J. Ramirez-Villegas, T. J. Osborn, A. Jarvis, L. P. Shoo, S. E. Williams & J. Lowe

[Affiliations](#) | [Contributions](#) | [Corresponding author](#)

Nature Climate Change **3**, 678–682 (2013) | doi:10.1038/nclimate1887

Received 09 August 2012 | Accepted 28 March 2013 | Published online 12 May 2013

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Climate change is expected to have significant influences on terrestrial biodiversity at all system levels, including species-level reductions in range size and abundance, especially amongst endemic species^{1, 2, 3, 4, 5, 6}. However, little is known about how mitigation of greenhouse gas emissions could reduce biodiversity impacts, particularly amongst common and widespread species. Our global analysis of future climatic range change of common and widespread species shows that without mitigation, 57±6% of plants and 34±7% of animals are likely to lose ≥50% of



Climate Data Initiative on food resilience

Apply for Microsoft Azure grant by September 15.



Science jobs

Science events

naturejobs.com

Postdoctoral Fellow in Optics

UiT The Arctic University of Norway

Postdoctoral Fellow in Ultrasound

UiT The Arctic University of Norway

Hair Appraisal and Measurement Senior Specialist

Unilever

keywords in ~1900 research papers that use or quote GBIF, from GBIF Public Library

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Why we need GBIF?

Researchers	Governments	Society
<ul style="list-style-type: none">• convenient access to millions of biodiversity data records• tools, training and infrastructure for global publication of data• tools and training for data analysis	<ul style="list-style-type: none">• capacity enhancement• tools to set up national biodiversity data portals• fulfil information requirements to respond to international agreements (EU 2020 Biodiversity Strategy, CBD, IPBES)	<ul style="list-style-type: none">• information on biodiversity occurrences in your neighbourhood, region or country• possibility to contribute through citizen science initiatives to global knowledge about biodiversity

GBIF in Portugal and Spain

PORTUGAL



Created in 2013 by protocol between IICT and FCT

SPAIN



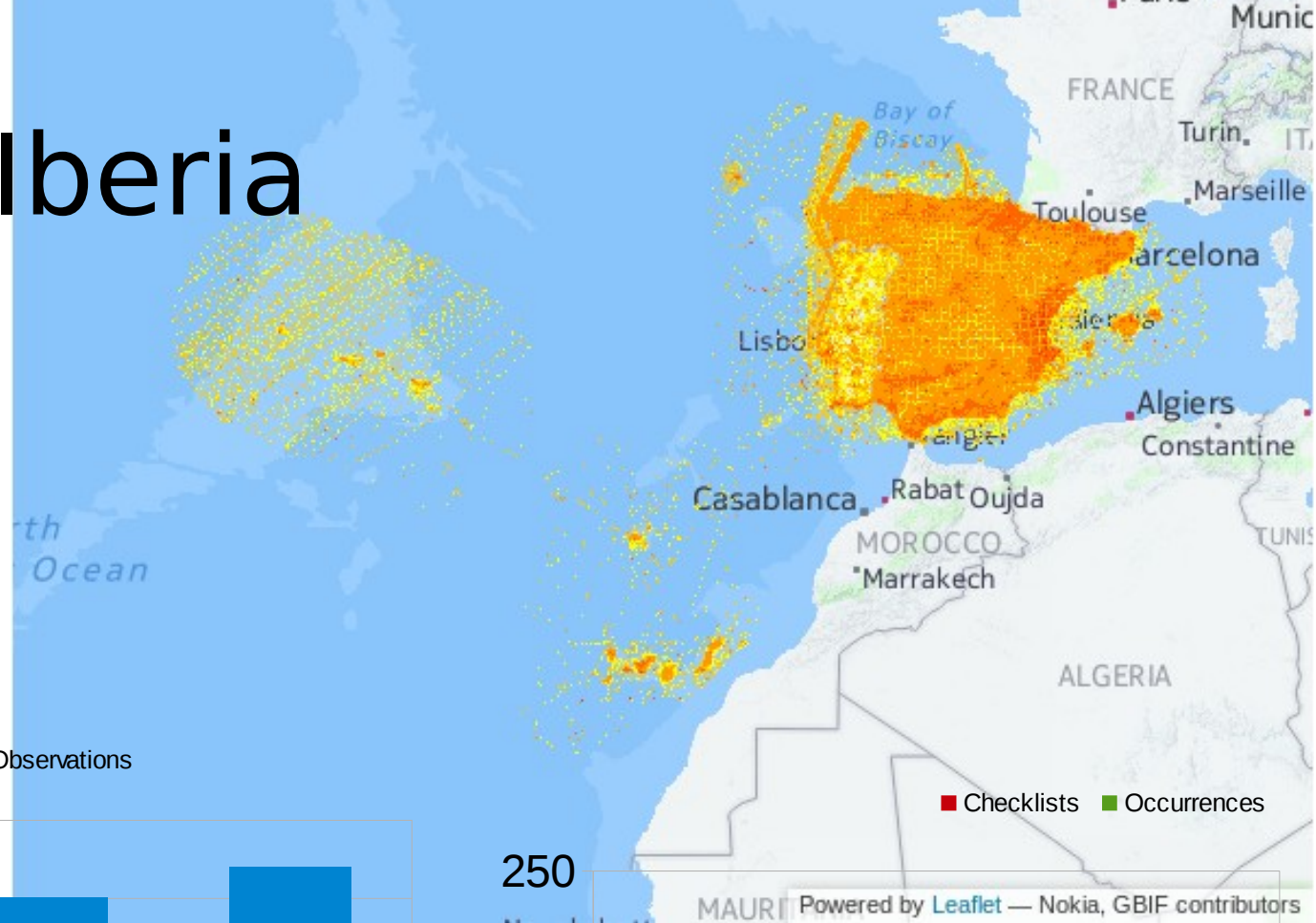
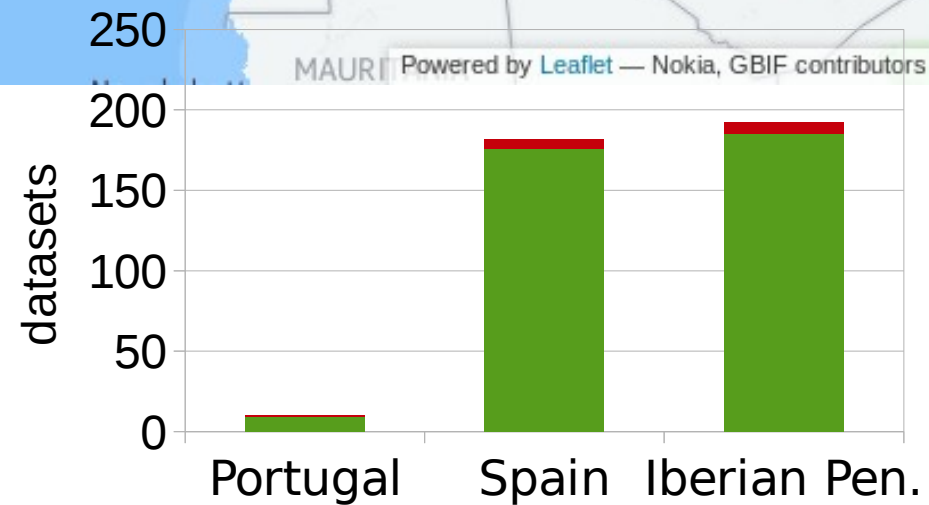
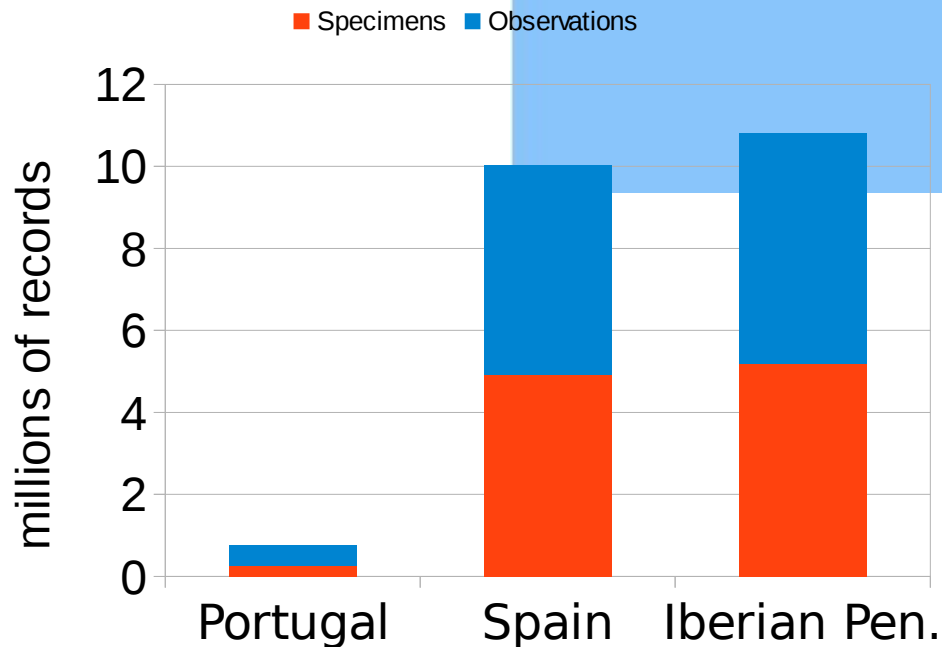
Created in 2003 by publication in the Official Journal

GBIF in Iberia

Spanish-Portuguese GBIF timeline

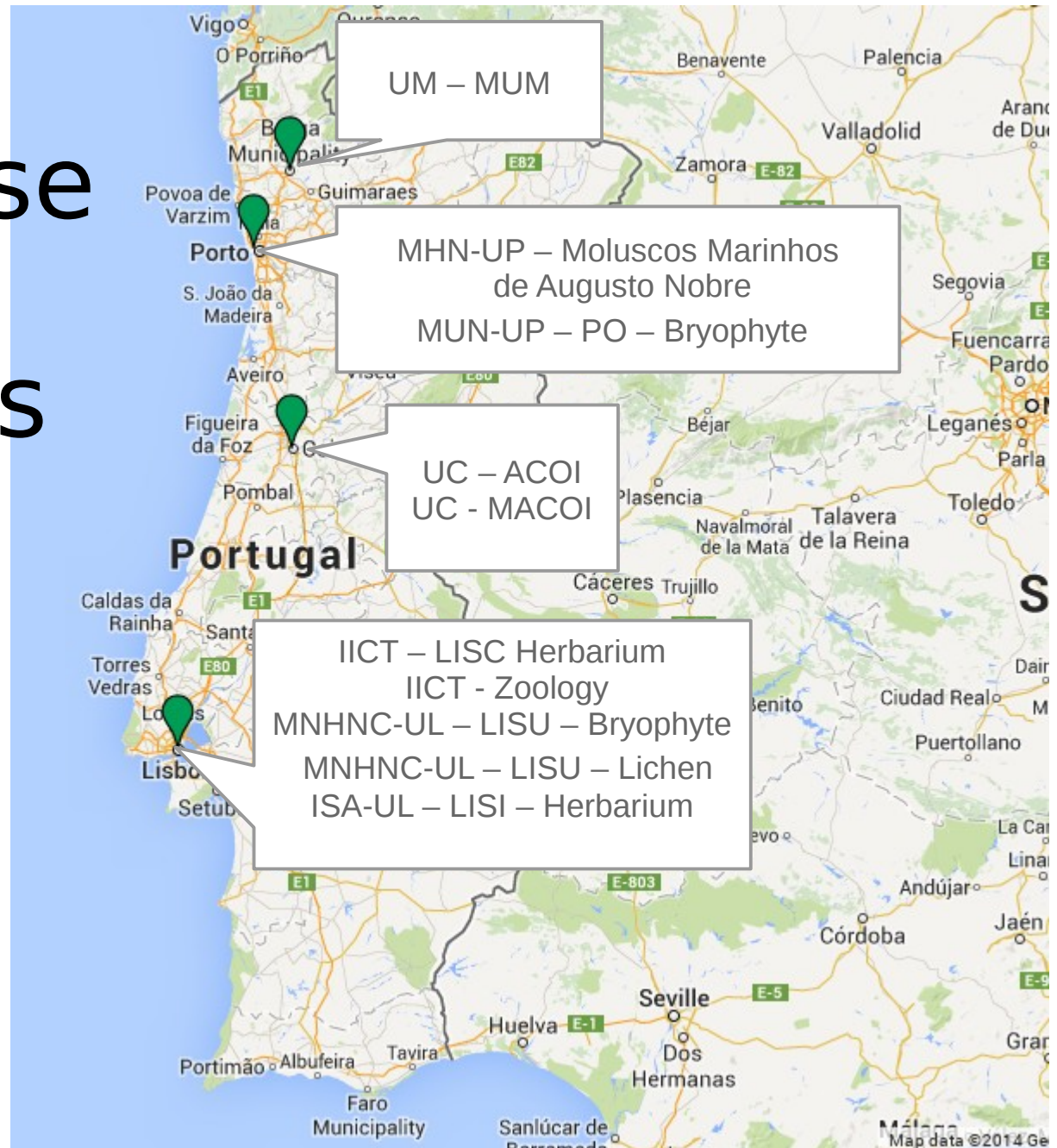
Year	Portugal	Milestone	Spain
2001		Signature of MoU	
2003		Creation of the spanish node	
2003		www.gbif.es	
2004		First spanish dataset publication	
2005		First portuguese dataset publication based in ES	
2006		Mentoring project ES-PT	
2006		First portuguese dataset publication based in PT	
2013		Creation of the portuguese node	
2013		Training on data papers	
2013		www.gbif.pt	
2013		Mentoring project ES-FR-PT	

GBIF in Iberia

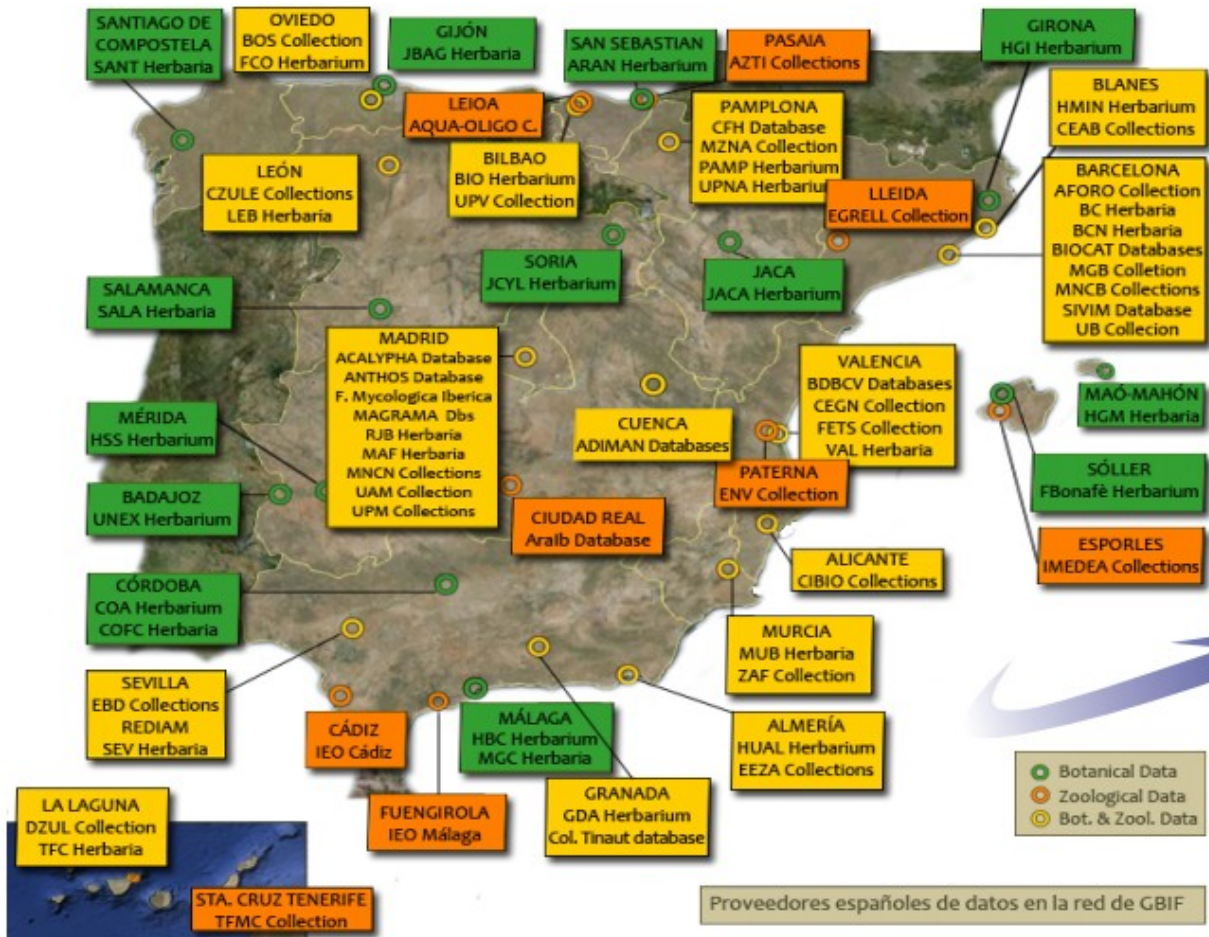


The Portuguese GBIF publishers

- 9 datasets
- 4 institutions
- 9 databases
- 37,266 records for PT
- 79,948 records for third countries



The Spanish GBIF publishers



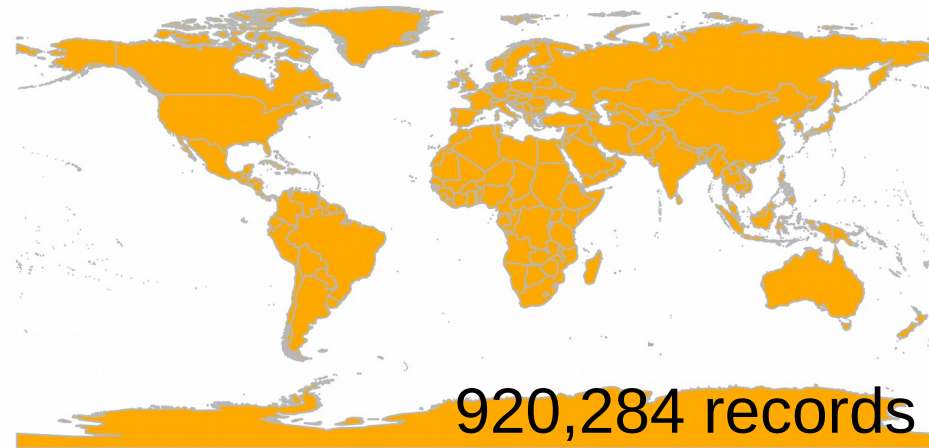
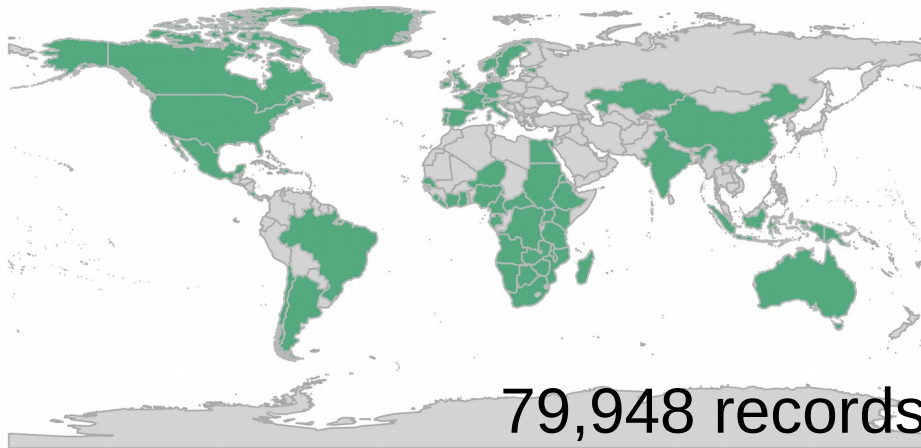
- 170 datasets
- hosted datasets of Cuba and Portugal
- 69 institutions and projects
- 164 databases
- 10,062,891 records
- 920,284 records for third countries

Data in GBIF crosses borders

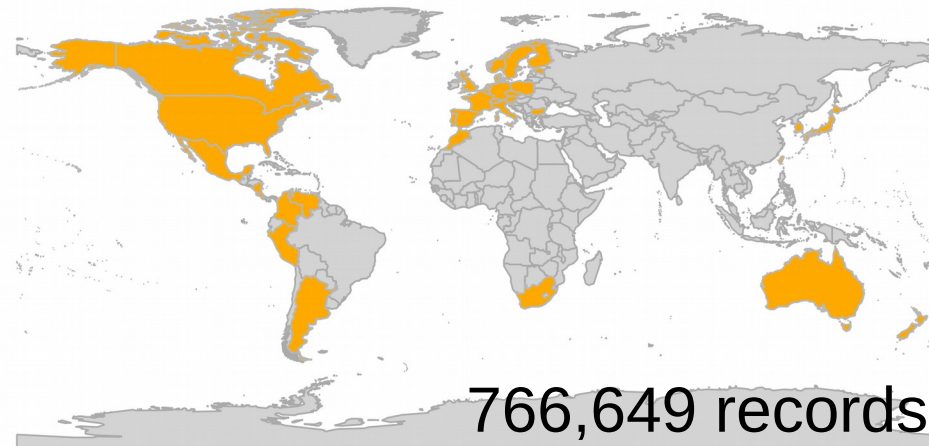
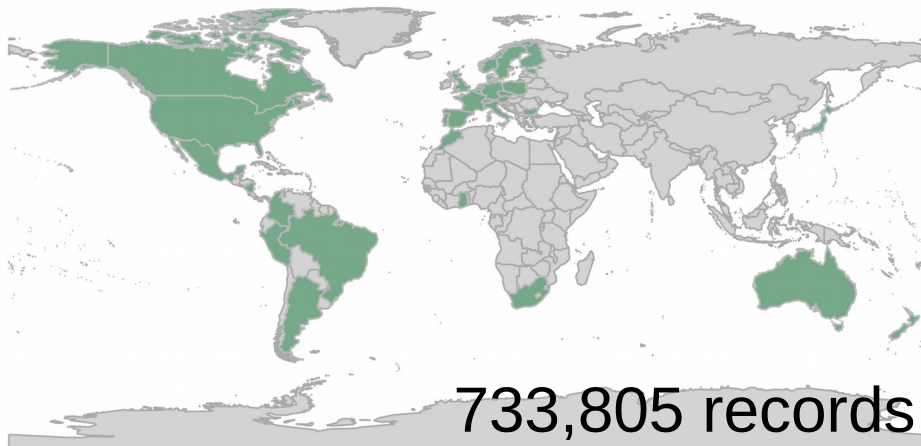
Portugal

Published for third countries

Spain



Published by third countries



Incentives for data digitizing

Portugal

FCT Fundação para a Ciência e a Tecnologia
MINISTÉRIO DA EDUCAÇÃO E CIÊNCIA

Funding Calls Media Statistics About FCT

FCT > Support > Projects > Access > By area

R&D Projects

Confirmed projects database queries

The information may be unavailable due to the results not being approved or confirmed. In particular, when a call includes regions where projects are cofunded by EC funds and others where that is not the case, confirmation or approval may be not simultaneous.

Proposals for Research Projects in all Scientific Domains - 2006

PTDC/BIA-QOR/66702/2006

IMBAMBA - Implementing Biodiversity Data Access and Management of Botanical Collections in Angola. Luis Miguel Fazendeiro Catarino, Instituto de Investigação Científica Tropical, I.P. (IICT) (IICT/MNE). **€130,000.**

PTDC/BIA-QOR/66755/2006

Willkomm Herbarium: historical collection online. Maria de Fátima Matias Sales Machado, Universidade de Coimbra (UC). **€143,000.**

PTDC/BIA-QOR/68211/2006

Determining the role of dirigent proteins during grapevine/Uncinula necator interactions. Ricardo Manuel de Seixas Boavida Ferreira, Instituto de Tecnologia Química e Biológica (ITQB/UNL). **€108,000.**

PTDC/BIA-QOR/71319/2006

Algoteca de Coimbra (ACOL): a unique collection of microalgae. Lília Maria Antunes dos Santos, Universidade de Coimbra.

PTDC/BIA-QOR/71319/2006

Recovery of the lost biodiversity of the Mary O...

PAINEL DE AVALIAÇÃO DE CIÊNCIAS BIOLÓGICAS - MIC/BDE-QOR - 2006

- Fred Wrona
- Joseph Culp
- Edward McCauley
- Peter de Ruiter
- Harold Koopowitz
- Kornelia Smalla

5 projects
641,000 €
(one time call – 2006),
managed by FCT

Spain

Global Biodiversity Information Facility in Spain

Español de GBIF | Data | Funding | Participants | Software | June 23, 2006

Home > GBIF Spain > Project Funding

Funding for Spanish projects



Since 2003 the Spanish Government has shown a clear support for contributions to GBIF goals and has announced a new Call for **'Complementary Scientific Actions'** for 2006 included in the 2004-2007 **I+D+I National Plan** of the Education and Science National Department ([official text](#), in Spanish). This call includes again specifically aids to **'Adapt living organisms' databases within the framework of the Global Biodiversity Information Facility (GBIF)**.

There are three periods to apply for these aids:

1. From January the 19th to April 6th, 2006.
2. **From April the 7th to July the 20th, 2006.**
3. From July the 21st to December the 30th, 2006.

The Spanish Ministry of Education and Science has issued a web page with all the information related to this call: basis, announcement, instructions, application forms and even a frequently asked questions section. You can find all the information (in Spanish) in:

http://www.mec.es/ciencia/isn/plantilla_isn?area=acciones-complementarias&id=31

The Coord proposals to

~ 15 projects/year
~ 500,000 €/year
(until 2009),
managed by GBIF.ES

Challenges

RIs need to assume a scalable structure that allows to adapt to new technologies. For example Next Generation Sequencing (NGS) has a huge potential but is demanding in data storage, processing and analysis.

The study of the complexity of ecosystems requires great adaptability, flexibility and scalability, with the adoption or development of (meta)data standards and protocols, and possibility of cross-analysis with other data types (remote sensing, climate, hydrological, geological).

Challenges

There is opportunity for development of new methods for biodiversity inventory, documentation, and monitoring, either taking advantage of the potential of biodiversity informatics applied to mobile devices, or the development of automated systems and sensors (camera traps, drones, satellite sensors).

RI should promote the engagement of the research community under a culture of data-sharing and data-reuse.

The financial sustainability is a major challenge that should be assured from the services provided to the scientific research but also to societal needs related to main biodiversity concerns: biodiversity loss, invasive species, climate change, nature conservation.

1st IBERLIFE Session



Thank you.

