Colecciones entomológicas en la red de GBIF

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GBIF - España

gbif.es

GOBIERNO DE ESPAÑA · MINISTERIO DE ECONOMÍA Y COMPETITIVIDAD

CSIC
Consejo Superior de Investigaciones Científicas

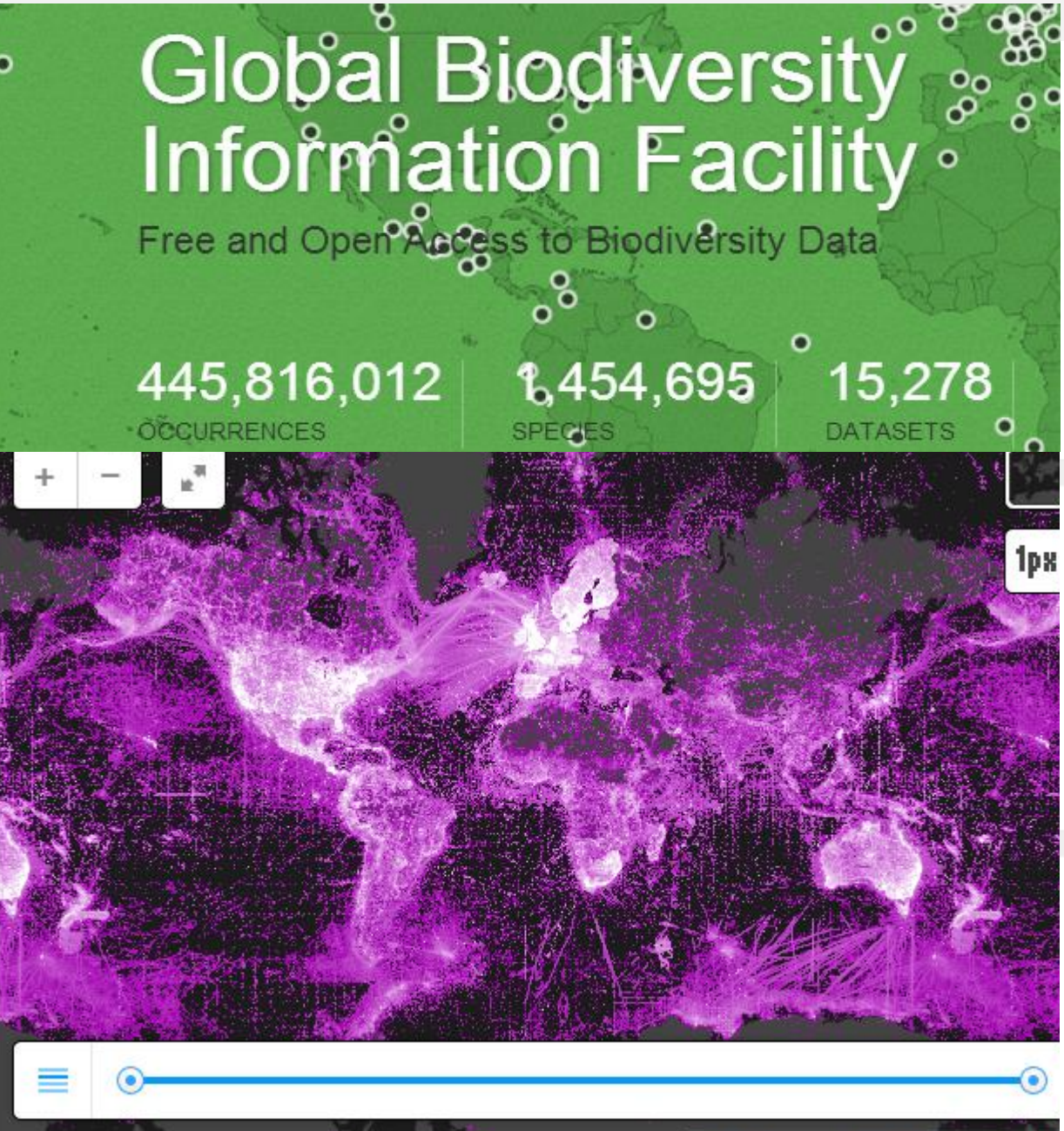
GBIF-ES es el Nodo Nacional de Información sobre Biodiversidad, patrocinado por el Ministerio Español de Economía y Competitividad, gestionado por el Consejo Superior de Investigaciones Científicas

41 CONGRESO Sociedad Colombiana de Entomología
Universidad Autónoma de Occidente
Cali, julio 2014
www.socolen.org.co

Que es GBIF:

www.gbif.org

La mayor red de datos de biodiversidad del mundo



Taxonomic characteristics

The following provides a summary of number of records per kingdom. Further filters, such as a location or temporal fi applied when exploring the data.

286.515.884 (66,8861%) Animalia records	121.523.887 (28,3693%) Plantae records	8.038.407 (1,8765%) Fungi records	4.332.760 (1,0115%) Protozoa records
2.107.154 (0,4919%) Chromista records	1.007.975 (0,2353%) Bacteria records	840.131 (0,1961%) Other records	14.228 (0,0033%) Archaea records
7.796 (0,0018%) Viruses records			

Record type characteristics

Records may originate from a variety of means, such as a scientist collecting a specimen or an individual recording th an organism. This is classified by the Darwin Core basisOfRecord standard.

303.738.491 (70,907%) Observation records	89.465.185 (20,885%) Specimen records	31.381.460 (7,326%) Unknown evidence records	2.615.217 (0,611%) Fossil records
762.123 (0,178%) Living Specimen records	401.613 (0,094%) Literature Occurrence records		

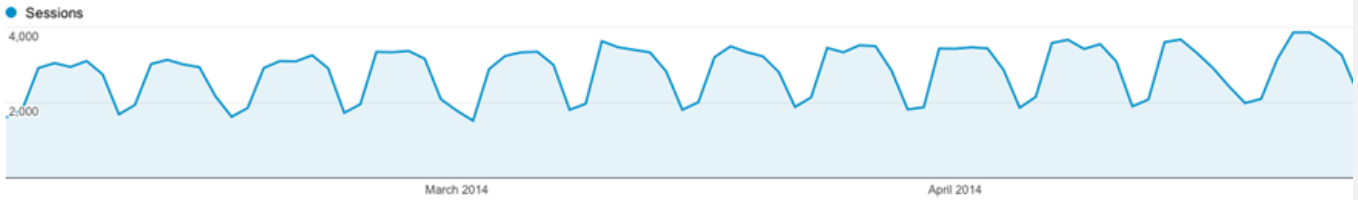
Temporal characteristics

This visualization sho growth in occurrence after 1950. GBIF prov to many older records add date range filters content for any period

For example, here is for records between 1 1950.

GBIF portal statistics

Daily visits to GBIF portal, 1 Feb - 07 May 2014



Visitor numbers by country (top 10), 1 Feb – 07 May 2014

	Country / Territory	Sessions	% Sessions
1.	United States	48,380	17.64%
2.	Spain	12,960	4.73%
3.	Germany	12,577	4.59%
4.	United Kingdom	12,481	4.55%
5.	France	10,600	3.86%
6.	India	10,530	3.84%
7.	Mexico	9,904	3.61%
8.	Brazil	9,721	3.54%
9.	Italy	7,711	2.81%
10.	Colombia	7,583	2.76%

Datos GBIF.Secretariat. 2014

GBIF

- No es una gran base de datos, más bien una federación de BBDD
  - Los publicadores de datos mantienen su identidad y control sobre los datos que publican
    - $\Rightarrow$ No hay “datos de GBIF”
    - $\Rightarrow$ Unos buenos metadatos son clave
- Puede complementar pero no sustituir portales propios de datos
- Está construido sobre una arquitectura informática global, no centralizada, basada en estándares abiertos

No hay “datos del GBIF”

Swiss National Butterflies Databank

Occurrence dataset published by Centre Suisse de Cartographie de la Faune - CSCF

581.051
Occurrences

View occurrences

Information | Stats | Activity

Summary

FULL TITLE

Swiss National Butterflies Databank

DESCRIPTION

Database with records of various origins, assembling literature data, digitized collection data and recent observational records provided to the CSCF. Proportionally, this latter resource represents the most important one and is the result of the network activities of voluntary collaborators, internally operated projects (Biodiversity Monitoring Z3-Z4, Red List Project) and impact studies, but also includes data from PhD and master theses. The data cover a period from 1835 to our days. Records have been reviewed according to a standardized validation procedure (http://www.cscf.ch/page24164_en.html). Digitized collection data for specimens hosted in Swiss institutions have been excluded from this resource as already part of the corresponding institutional dataset. Nomenclature has been reviewed within the Swiss participation in the Pan-European Species Directory Infrastructure PESI (Fauna Europaea).

PUBLISHED BY

Centre Suisse de Cartographie de la Faune - CSCF

REGISTRATION DATE

29-may-2012

SERVED BY

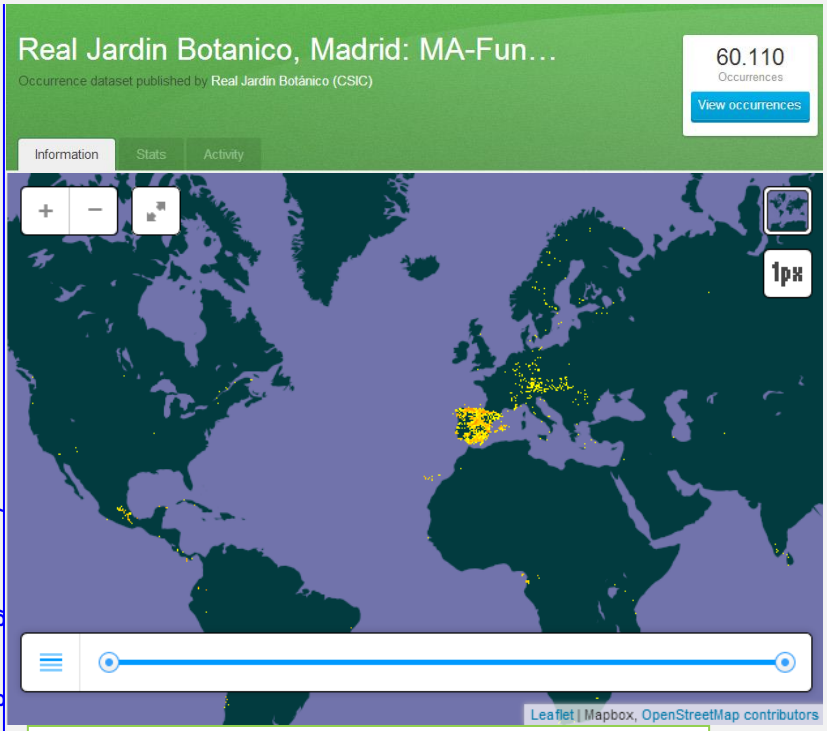
BioCASe Installation Centre Suisse de Cartographie de la Faune - CSCF

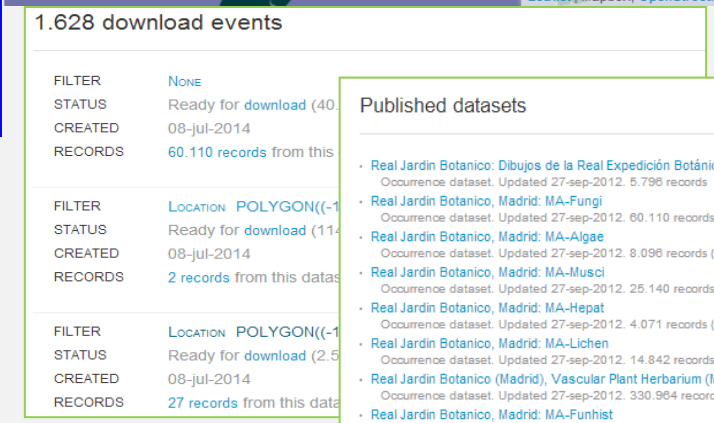
LINKS

- Dataset homepage

GBIF complementa pero no sustituye a los portales propios de datos

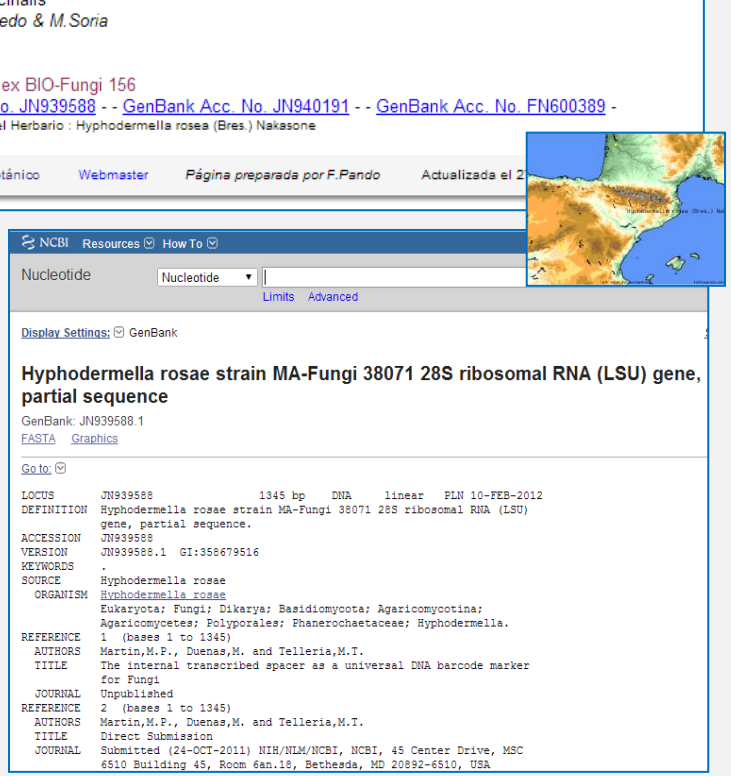
http://www.gbif.org/dataset/82ad4e4e-f762-11e1-a439-00145eb45e9a



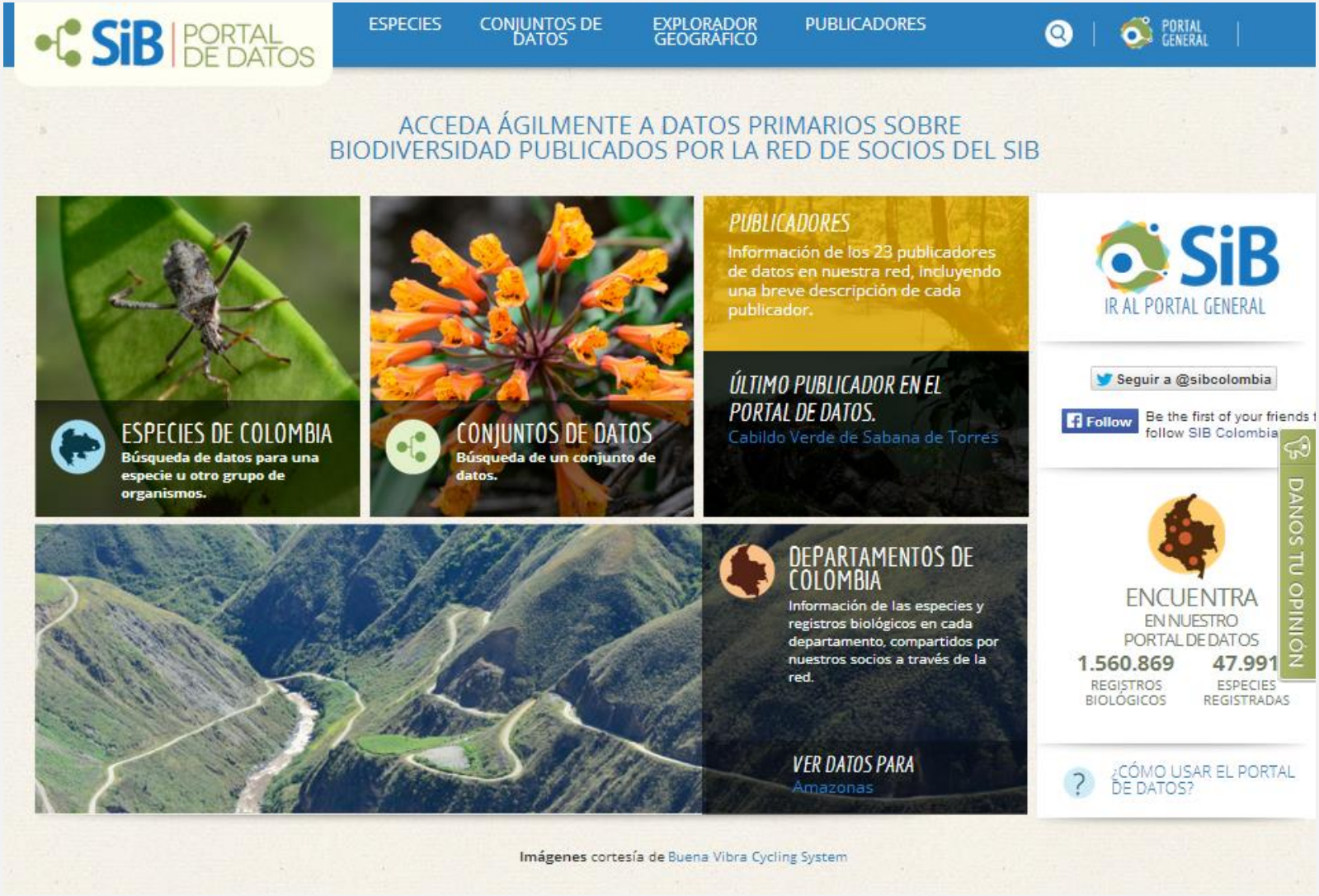


http://161.111.170.202/herb/asp/herbariodbe.asp

http://161.111.170.202/herb/asp/dos.asp?conque=MA-Fungi&fnhe=38071&fadic=1



No centralizado: El SiB Colombia



http://www.sibcolombia.net/

Los datos

Arácnidos en GBIF

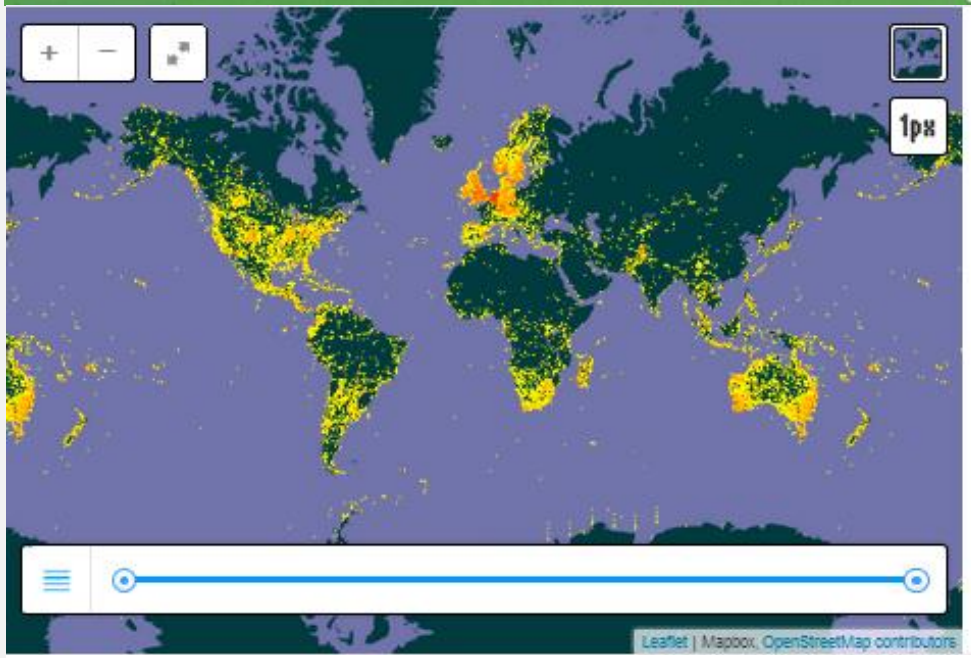
Arachnida Cuvier, 1812

Class in GBIF Backbone Taxonomy

Animalia › Arthropoda

1.556.413 Occurrences | 106.302 Species

View occurrences



Georeferenced data

VIEW RECORDS

All 1.185.723 | In viewable area

DISTRIBUTIONS

Text based distributions present in some sources.

Classification

KINGDOM	Animalia
PHYLUM	Arthropoda
CLASS	Arachnida
ORDER	18
FAMILY	967
GENUS	14.323
SPECIES	106.302

complete classification

Subordinate taxa

Amblypygi	order	230 descendants
Araneae	order	49,989 descendants
Astigmata	order	4,975 descendants
Holothyrida	order	40 descendants
Ixodida	order	964 descendants
Mesostigmata	order	11,016 descendants
Opilioacarida	order	47 descendants
Opiliones	order	8,110 descendants

OCCURRENCE DATASETS

- ARABEL - Arachnologia Belgica
  in 291.401 occurrences
- Dutch Foundation for Applied Water Research (STOWA) - L...
  in 175.758 occurrences
- Ohio State Acarology Laboratory (OSAL), Ohio State Univ...
  in 113.111 occurrences
- Museum of Comparative Zoology, Harvard University
  in 67.593 occurrences
- RBINS collections
  in 61.565 occurrences
- Artdata
  in 46.515 occurrences

923 more ›

CHECKLISTS

- Zoological names. A list of phyla, classes, and orders,...
  as Arachnida Lamarck, 1815
- IRMNG Homonym List
  as Arachnida
- Paleobiology Database
  as Arachnida
- World Register of Marine Species
  as Arachnida Cuvier, 1812
- Integrated Taxonomic Information System (ITIS)
  as Arachnida
- Fauna Europaea
  as Arachnida

207 more ›

http://www.gbif.org/species/367

Los datos

Insectos en GBIF

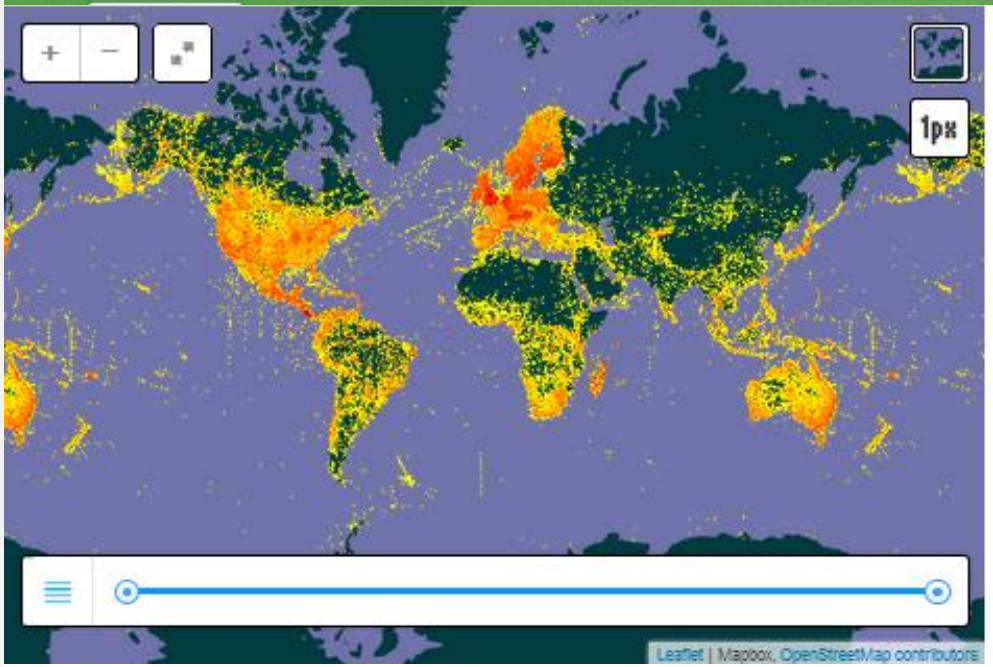
Insecta

Class in GBIF Backbone Taxonomy

Animalia › Arthropoda

36.844.870 Occurrences | 979.609 Species

View occurrences



Georeferenced data

VIEW RECORDS

All 30.468.625 | In viewable area

DISTRIBUTIONS

Text based distributions present in some sources.

Classification

KINGDOM	Animalia
PHYLUM	Arthropoda
CLASS	Insecta
ORDER	30
FAMILY	2.166
GENUS	139.785
SPECIES	979.609

complete classification

Subordinate taxa

Archaeognatha	order	603 descendants
Blattodea	order	6,708 descendants
Coleoptera	order	312,393 descendants
Dermaptera	order	2,264 descendants
Diptera	order	205,293 descendants
Embioptera	order	542 descendants
Ephemeroptera	order	4,799 descendants
Grylloblattodea	order	84 descendants

OCCURRENCE DATASETS

- Artdata
  in 2.512.253 occurrences
- Especímenes INBio
  in 2.496.121 occurrences
- Finnish Entomological Database: Lepidoptera
  in 1.766.397 occurrences
- Biologiezentrum Linz
  in 1.290.543 occurrences
- AntWeb
  in 1.225.396 occurrences
- Snow Entomological Museum Collection
  in 984.492 occurrences

2.068 more ›

CHECKLISTS

- 3i - Typhlocybinae Database
  as Insecta
- Zoological names. A list of phyla, classes, and orders,...
  as Insecta Linnaeus, 1758
- IRMNG Homonym List
  as Insecta
- Index Fungorum
  as Insecta
- Paleobiology Database
  as Insecta
- World Register of Marine Species
  as Insecta

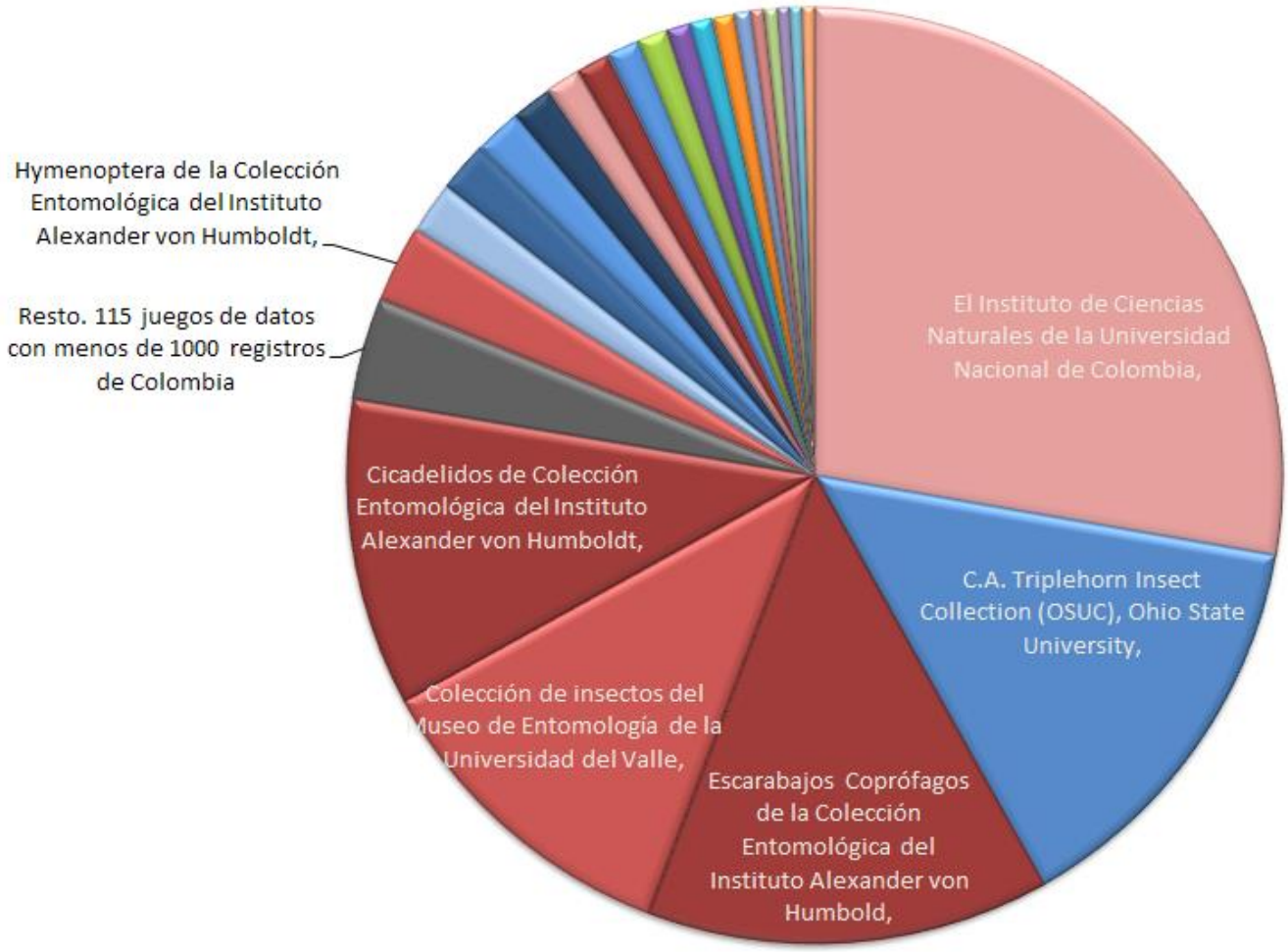
585 more ›

AntWeb

http://www.gbif.org/species/216

Los datos

Insectos en GBIF: Colombia



259.969 registros

138 juegos de datos ; 23 con más de 1000 registros

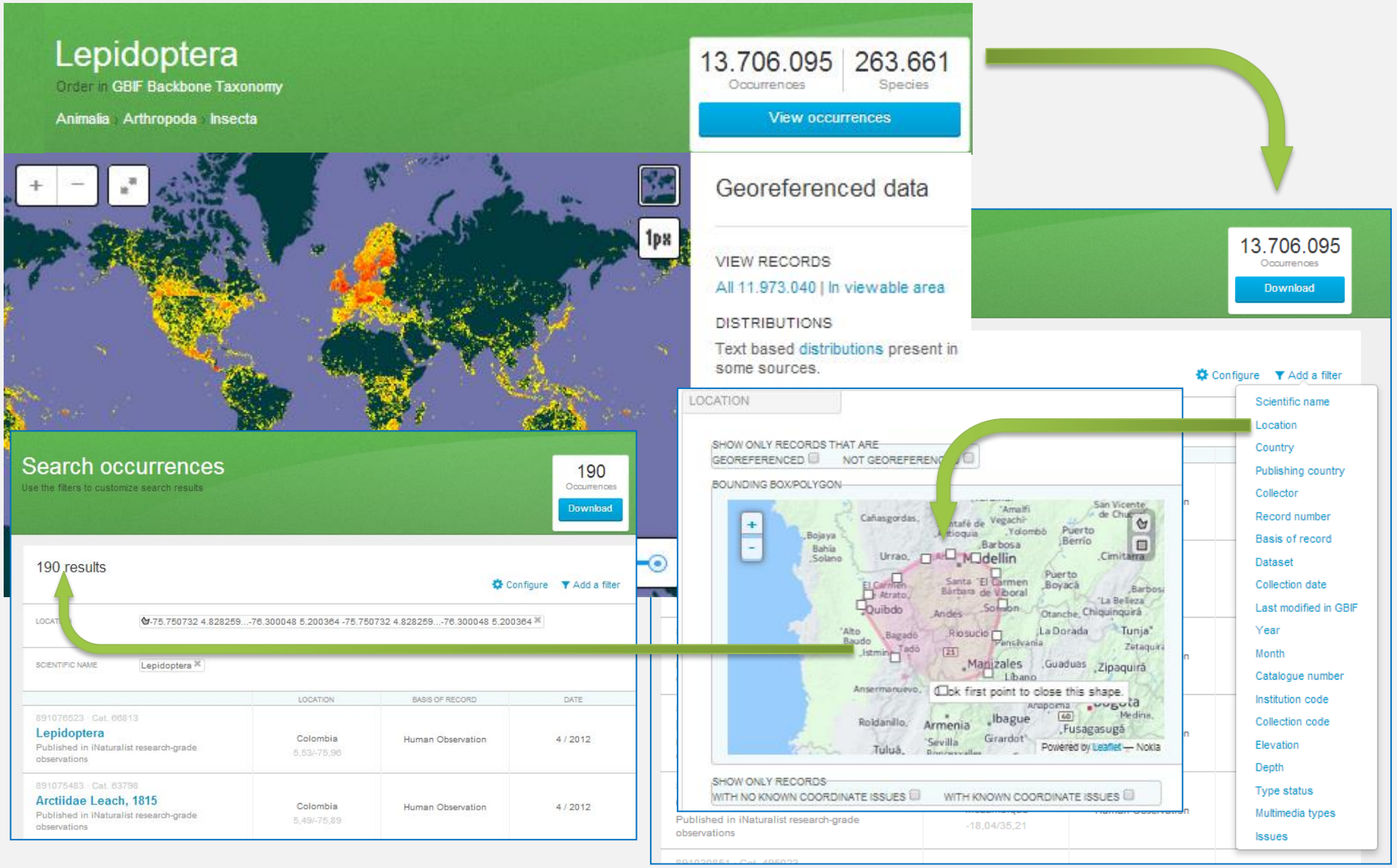
Como usar GBIF

- Consultar
  - filtros
- Descargar
  - registrarse
- Visualizar en nuestra web
  - APIs
    - http://www.gbif.es/Map.html
    - http://cdn.gbif.org/v0.9/map/index.html?type=DATASET&key=85b2fcd8-f762-11e1-a439-00145eb45e9a&resolution=1&style=dark
    - http://cdn.gbif.org/v0.9/map/index.html?type=TAXON&key=216&resolution=1&style=dark

http://api.gbif.org/v0.9/map/density/tile?x={x&y={y}&z={z}&type=DATASET&key=85b2fcd8-f762-11e1-a439-00145eb45e9a&layer=OBS_NO_YEAR&layer=SP_NO_YEAR&layer=OTH_NO_YEAR&layer=OBS_1900_1910&layer=SP_1900_1910&layer=OTH_1900_1910&layer=OBS_1910_1920&layer=SP_1910_1920&layer=OTH_1910_1920&layer=OBS_1920_1930&layer=SP_1920_1930&layer=OTH_1920_1930&layer=OBS_1930_1940&layer=SP_1930_1940&layer=OTH_1930_1940&layer=OBS_1940_1950&layer=SP_1940_1950&layer=OTH_1940_1950&layer=OBS_1950_1960&layer=SP_1950_1960&layer=OTH_1950_1960&layer=OBS_1960_1970&layer=SP_1960_1970&layer=OTH_1960_1970&layer=OBS_1970_1980&layer=SP_1970_1980&layer=OTH_1970_1980&layer=OBS_1980_1990&layer=SP_1980_1990&layer=OTH_1980_1990&layer=OBS_1990_2000&layer=SP_1990_2000&layer=OTH_1990_2000&layer=OBS_2000_2010&layer=SP_2000_2010&layer=OTH_2000_2010&layer=OBS_2010_2020&layer=SP_2010_2020&layer=OTH_2010_2020&layer=LIVING&layer=FOSSIL&palette=yellows_reds

GBIF para todos, desde todos

Usar GBIF (1/3): Consultas



Animalia Arthropoda Insecta

View occurrences

Information

Overview

FULL NAME
Lepidoptera

TAXONOMIC STATUS
Accepted order

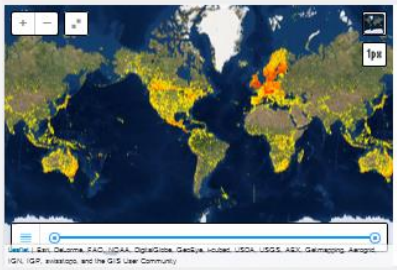
COMMON NAMES
- butterflies
- Lepidoptera (Butterfly / Moth)
- moths

more

ACCORDING TO
The Catalogue of Life, 3rd January 2011

EXTERNAL LINKS
- Encyclopedia of Life
- Catalogue of Life
- Biodiversity Heritage Library

GBIF ID 797



Georeferenced data

VIEW RECORDS
All 11.973.040 | In viewable area

DISTRIBUTIONS
Text based distributions present in some sources.

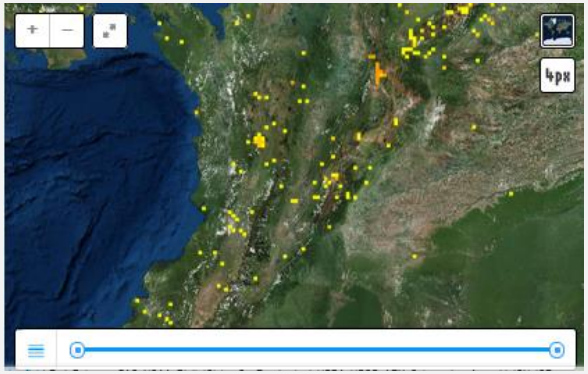
Subordinate taxa

- Acanthopteroctetoidea superfamily 7 descendants
- Agathiphagoidea superfamily 4 descendants
- Alucitoidea superfamily 226 descendants
- Axioidea superfamily 21 descendants
- Bombycoidea superfamily 10.295 descendants
- Calliduloidea superfamily 53 descendants
- Choreutoidea superfamily 476 descendants
- Copromorphoidea superfamily 452 descendants

Classification

KINGDOM Animalia
PHYLUM Arthropoda
CLASS Insecta
ORDER Lepidoptera
FAMILY 204
GENUS 27.146
SPECIES 263.661

complete classification



GBIF 891076611

Human Observation of Mythimna unipuncta (Haworth, 1809) recorded on 07-abr-2012

from Naturalist research-grade observations dataset

Information

INTERPRETATION ISSUES

GBIF found issues interpreting the verbatim content of this record:
Coordinate rounded
Geodetic datum assumed WGS84
Country derived from coordinates

Location

LOCALITY
Colombia

GEOGRAPHIC CLASSIFICATION
Colombia

Mythimna unipuncta

LICENSE
No license given

Identification details

According to GBIF Backbone Taxonomy

IDENTIFIED AS SPECIES
Mythimna unipuncta (Haworth, 1809)

IDENTIFIED
17-abr-2012

TAXONOMIC CLASSIFICATION
Animalia · Arthropoda · Insecta · Lepidoptera · Noctuidae · Mythimna

IDENTIFICATION ID
66255

Occurrence details

RECORDED
07-abr-2012 2:56:00 by lumaz

Source details

DATA PUBLISHER
iNaturalist.org

Record details on publisher site

INSTITUTION CODE
iNaturalist

DATASET
iNaturalist research-grade observations

DATASET NAME
iNaturalist research-grade observations

COLLECTION CODE
Observations

GBIF ID
891076611

CATALOG NUMBER
66255

http://www.gbif.org/occurrence/891076611

iNaturalist research-grade observati…

Occurrence dataset published by iNaturalist.org

322.133 Occurrences

View occurrences

Information | Stats | Activity

Summary

FULL TITLE
iNaturalist research-grade observations

DESCRIPTION
Research-grade observations from iNaturalist.org.

PURPOSE
iNaturalist.org is a website where anyone can record their observations from nature. Members record observations for numerous reasons, including participation in citizen science projects, class projects, and personal fulfillment.

TEMPORAL COVERAGES
Date range: 27-dic-0999 - 03-jul-2014

LANGUAGE OF DATA

iNaturalist.org

PUBLISHED BY
iNaturalist.org

PUBLICATION DATE
03-jul-2014

REGISTRATION DATE
09-feb-2012

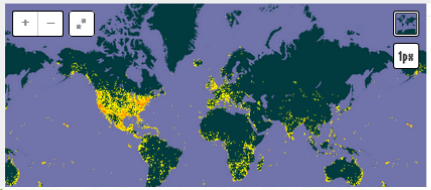
SERVED BY
HTTP Installation

LINKS
- Dataset homepage

ALTERNATIVE IDENTIFIERS
- GBIF Portal ID
  http://data.gbif.org/datasets/...

EXTERNAL DATA
- Darwin Core Archive

METADATA DOCUMENTS
- GBIF annotated version (EML)

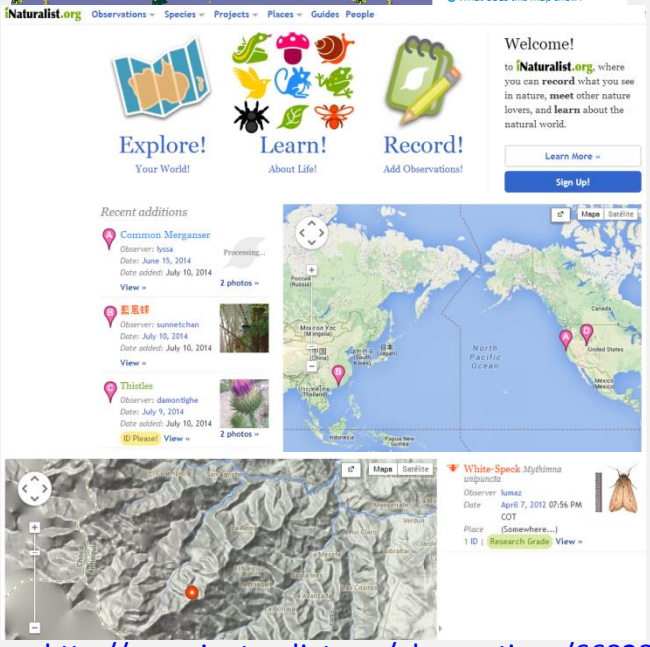


320.165 Georeferenced data

VIEW RECORDS
All records | In viewable area

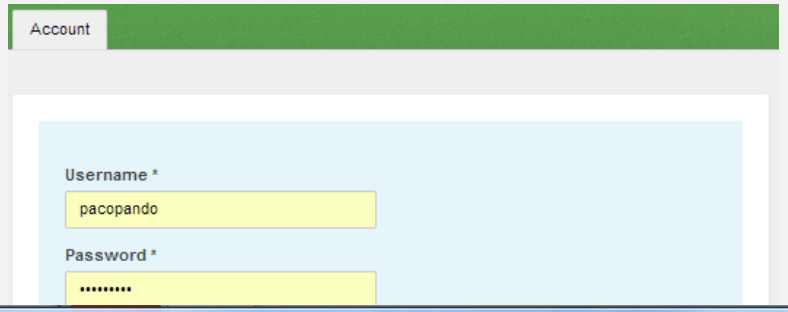
DESCRIPTION
Bounding Box

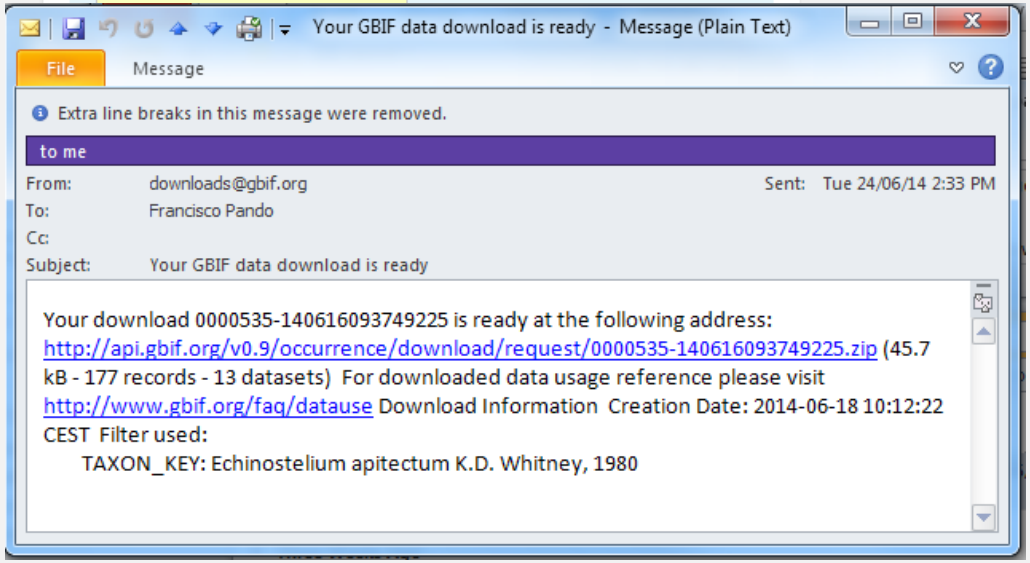
ABOUT
What does this map show?

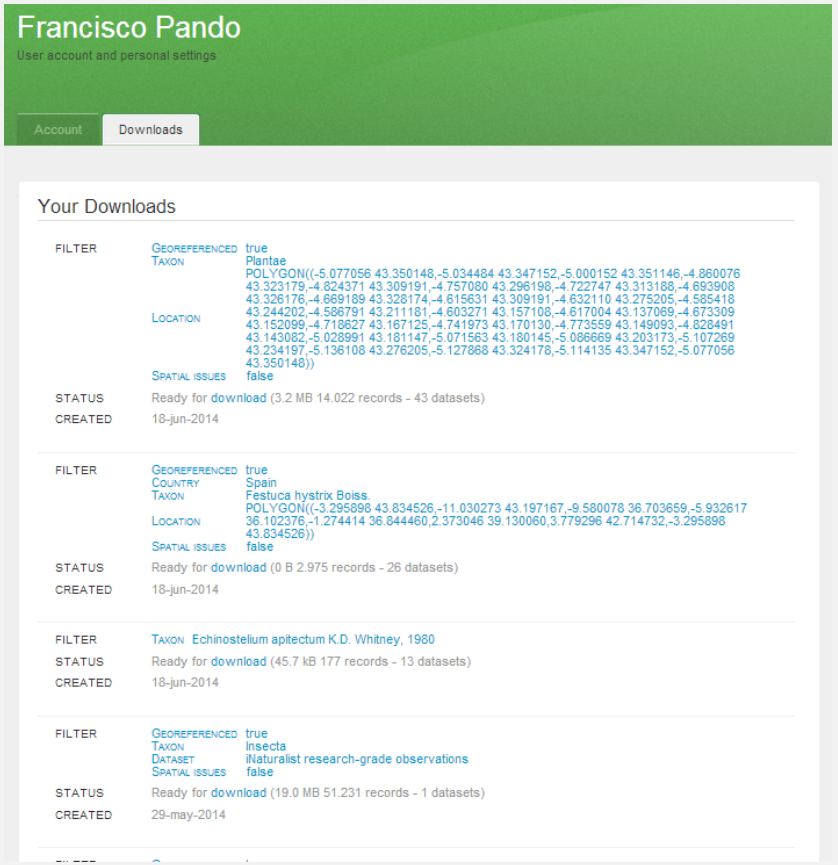


http://www.inaturalist.org/observations/66828

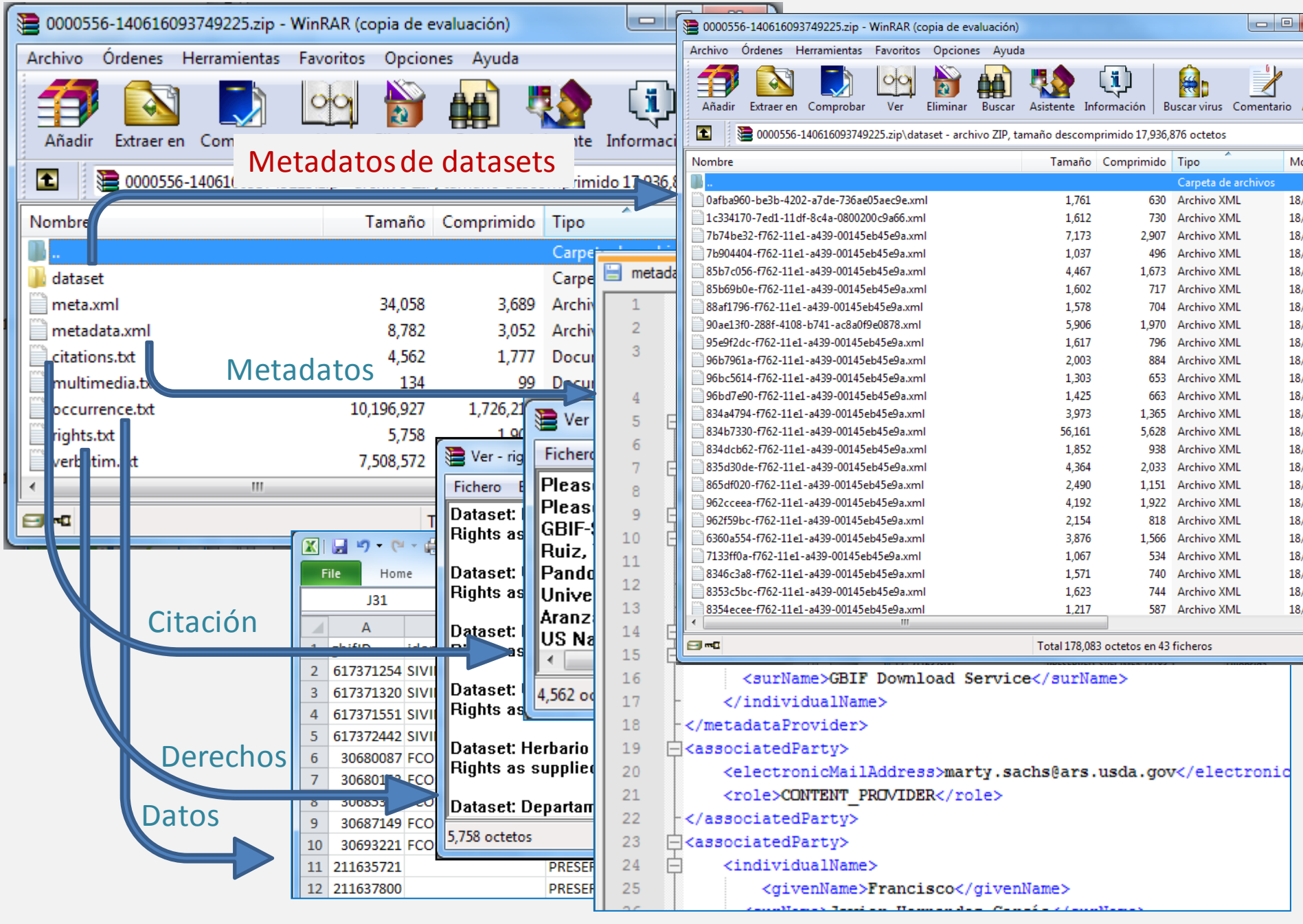
Usar GBIF (2/3): Descargas







Descargas de GBIF: “Darwin Core Archive” (.zip)

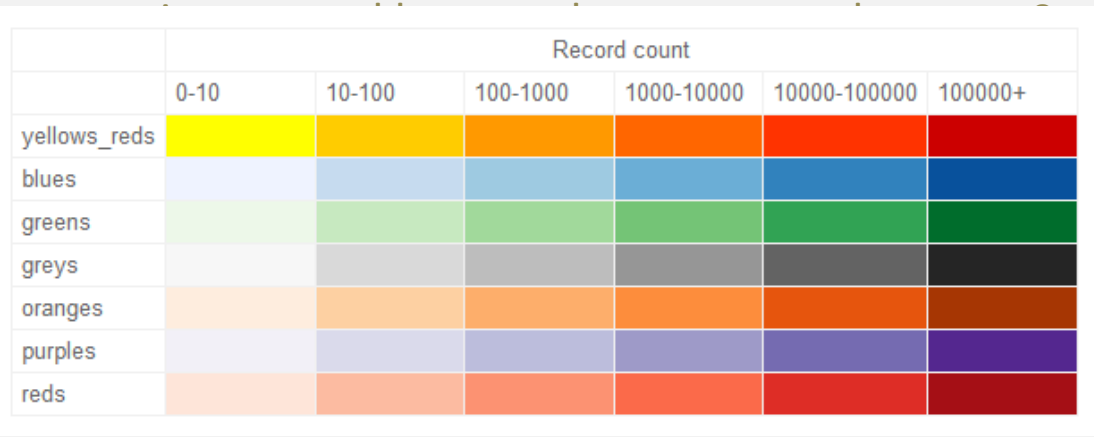


Usar GBIF (3/3): Visualizar en nuestra web

http://www.gbif.es/Map.html

Parámetros:

- type – oligatorio – TAXON, DATASET,COUNTRY,PUBLISHER
- key – obligatorio – taxon_key,uuid del dataset/publisher o el ISO country code.
- resolution – opcional (por defecto =1, {1,2,4 and 16}) Densidad
- layer - opcional – Nos permite definir las capas de información que queramos que sean visualizadas.
- Style – dark, light, satellite
- palette – opcional – Permite seleccionar el juego de colores con el cual queremos que se coloreen las cantidades de datos mostrados.
- saturation & hue: Cuando … y 1.



Usar GBIF (3/3): Visualizar en nuestra web

APIs: http://www.gbif.org/developer

- http://cdn.gbif.org/v0.9/map/index.html?type=DATASET&key=85b2fcd8-f762-11e1-a439-00145eb45e9a&resolution=1&style=dark
- http://cdn.gbif.org/v0.9/map/index.html?type=TAXON&key=216&resolution=1&style=dark

Como contribuir a GBIF

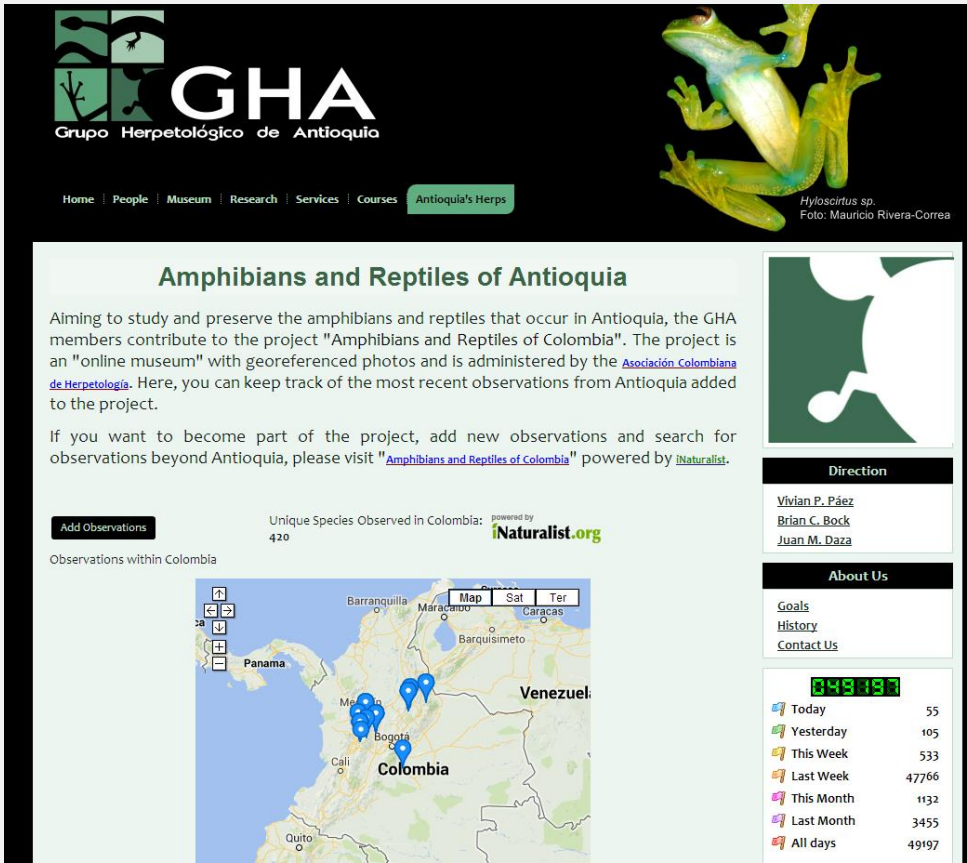
- Tres vías:
  - Ciencia ciudadana
  - Colecciones
  - Investigación

Contribuir a GBIF: Ciencia ciudadana

http://conabio.inaturalist.org/

http://bioexplorador.inbio.ac.cr/

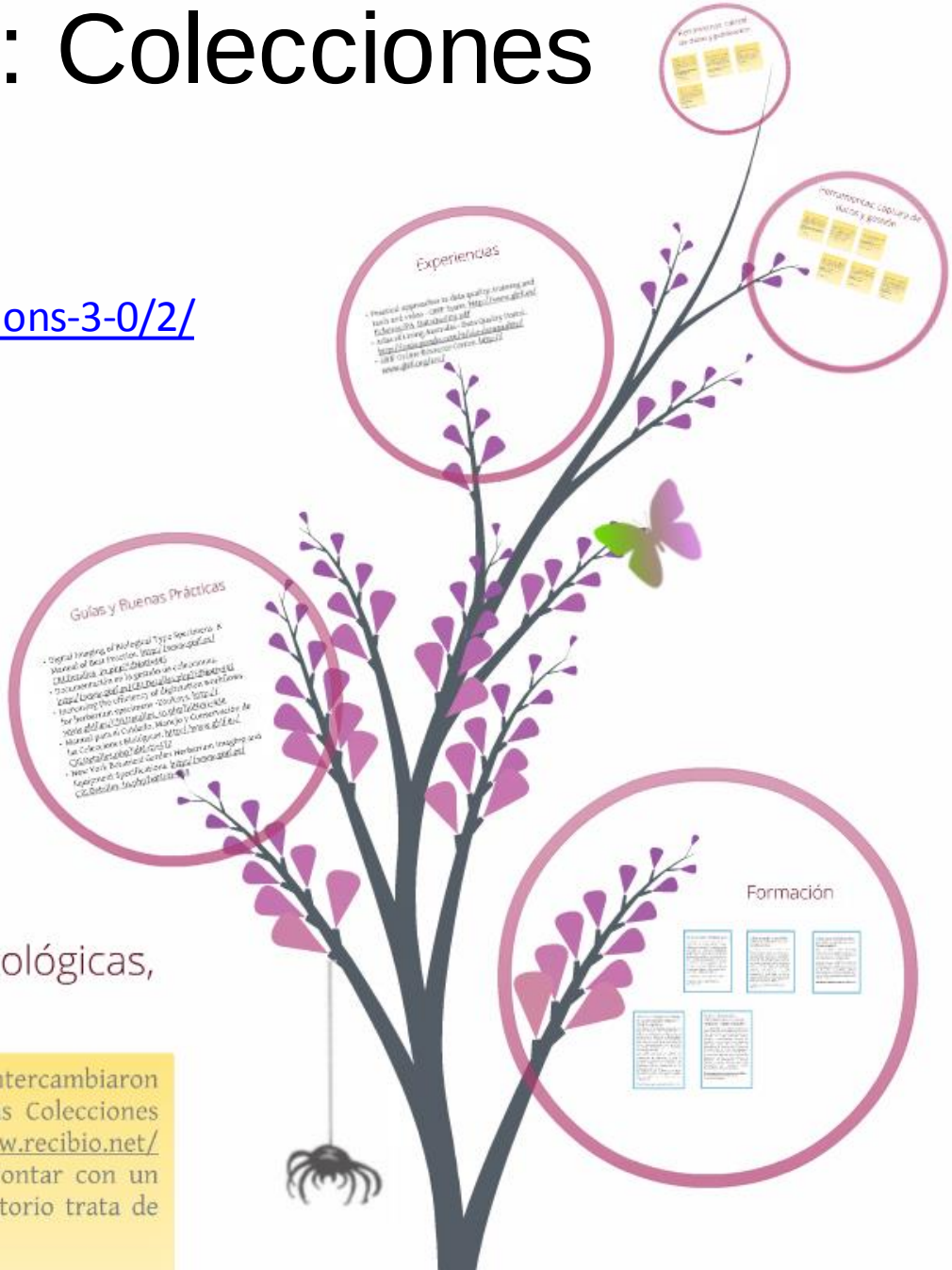
http://www.herpetologicodeantioquia.org/index.php/antioquia-s-herps



Contribuir a GBIF: Colecciones

http://www.recibio.net/recursos/rrcb/

http://www.recibio.net/biological-collections-3-0/2/



Repositorio de Recursos para Colecciones Biológicas, RRCB

Un grupo de profesionales y expertos iberoamericanos deliberaron e intercambiaron conocimientos en Colombia, 2012, sobre la próxima frontera de las Colecciones Biológicas para hacer Ciencia y beneficiar a la Sociedad (http://www.recibio.net/colecciones-biologicas-3-0/). Este grupo identificó la necesidad de contar con un acceso sencillo y dinámico a recursos para colecciones. Este repositorio trata de responder a esa demanda.

Contribuir a GBIF: Investigación

- Cambio cultural:

  a) Que sea una exigencia de las políticas científicas

  b) que la publicación de datos primarios sean considerados un mérito científico

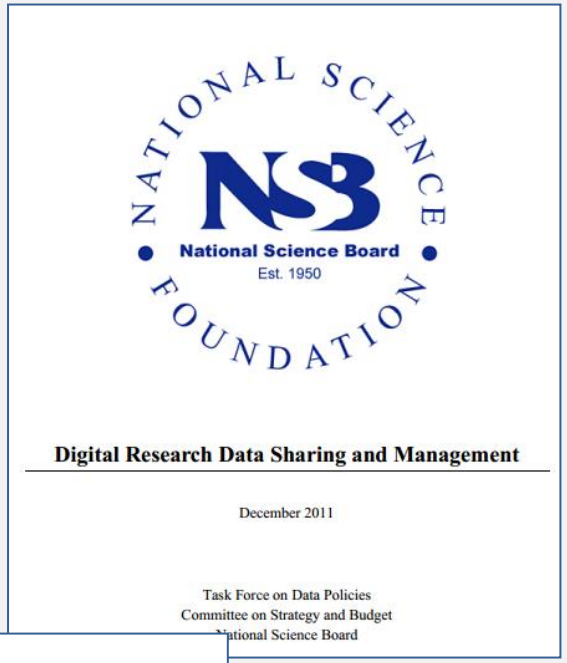
  - Hacen falta ciertos elementos técnicos:
    - Un sistema de citación
    - Un marco de licencias
    - Un sistema de referencia: identificadores únicos, persistentes, resolvibles
- Hace falta otro cambio de cultura
  - Reusar
  - Citar, metadatar
  - … reconocer
  - Cambiar las reglas
- >>> entretanto, lo único que cuenta en las publicaciones en revista con factor de impacto

Que los datos se publiquen: requerimientos, e incentivos para científicos

- Cambio cultural:
  - a) Que sea una exigencia de las políticas científicas

    => reconocimiento, mérito científico
  - b) Cambiar: las reglas

  - http://www.nsf.gov/nsb/publications/2011/nsb1124.pdf
  - http://ec.europa.eu/research/science-society/document_library/pdf_06/recommendation-access-and-preservation-scientific-information_en.pdf

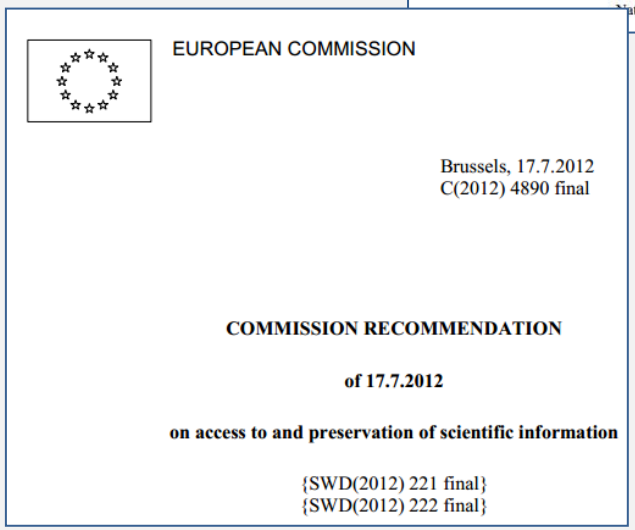

NATIONAL SCIENCE FOUNDATION

National Science Board
Est. 1950

Digital Research Data Sharing and Management

December 2011

Task Force on Data Policies
Committee on Strategy and Budget
National Science Board


EUROPEAN COMMISSION

Brussels, 17.7.2012
C(2012) 4890 final

COMMISSION RECOMMENDATION

of 17.7.2012

on access to and preservation of scientific information

{SWD(2012) 221 final}
{SWD(2012) 222 final}

Que los datos se publiquen: requerimientos e incentivos para científicos

- Mientras llega, hacen falta ciertos elementos técnicos que facilite el reusar y citar
  - Un sistema de citación
  - Un marco de licencias
  - Un sistema de referencia (identificadores únicos, persistentes resolvibles)
- Hace falta más cambio de cultura
  - Reusar
  - Citar, “metadatar”
  - … reconocer

Que los datos se publiquen: requerimientos, e incentivos para científicos

- Hoy por hoy, lo único que cuenta es las publicaciones en revistas con factor de impacto, y de ahí el concepto de “data paper”

Data Paper:

“A specific, stand-alone publication describing a particular dataset or a collection of datasets”

Una publicación independiente que describe un juego de datos o una colección de ellos (publicados en línea)

Que se está haciendo (1)

Publicar los datos de manera citable y verificable: "artículos de datos", revistas de datos:

http://connect.clir.org/blogs/katherine-akers/2013/12/12/data-journals-incentivizing-research-data-dissemination

- Pensoft data papers:

  http://biodiversitydatajournal.com/

- Nature Group: *Scientific Data.*

  http://www.nature.com/sdata/

Ejemplos

Narwade *et al*. (2011). Literature based species occurrence data of birds of northeast India. ***Zookeys*** 150: 407-417.

De Egea *et al*. (2011). Checklist of vascular plants of the Department of Ñeembucú, Paraguay. ***Phytokeys*** 9: 15-179

Van Landuyt *et al*. (2012). Florabank1: a grid-based database on vascular plant distribution in the northern part of Belgium (Flanders and the Brussels Capital region). ***PhytoKeys*** 12: 59-67.

Danis *et al*. (2012). Antarctic Starfish (Echinodermata, Asteroidea) from the ANDEEP3 expedition. ***Zookeys*** 185: 73-78.

Luo *et al*. (2011). Database of diazotrophs in global ocean: abundance, biomass and nitrogen fixation rates. ***Earth System Science Data*** 4: 47-73.

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DCC because good research needs good data

The Rise of the Data Journal

IASSIST, Cologne, Germany, May 31, 2013

Marieke Guy & Monica Duke
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Funded by: JISC

IASSIST, Cologne, May 2013.

http://www.slideshare.net/MariekeGuy/the-rise-of-the-data-journal

Para concluir y discutir

- GBIF no da respuestas, da acceso a datos que sirvan de base para obtener respuestas.
- Entender GBIF, contribuir a sus sostenibilidad (la de la gente)
- Los datos son el combustible de la ciencia del siglo XIX
- “Queremos hacer poesía, y tenemos que aprender el abecedario”

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