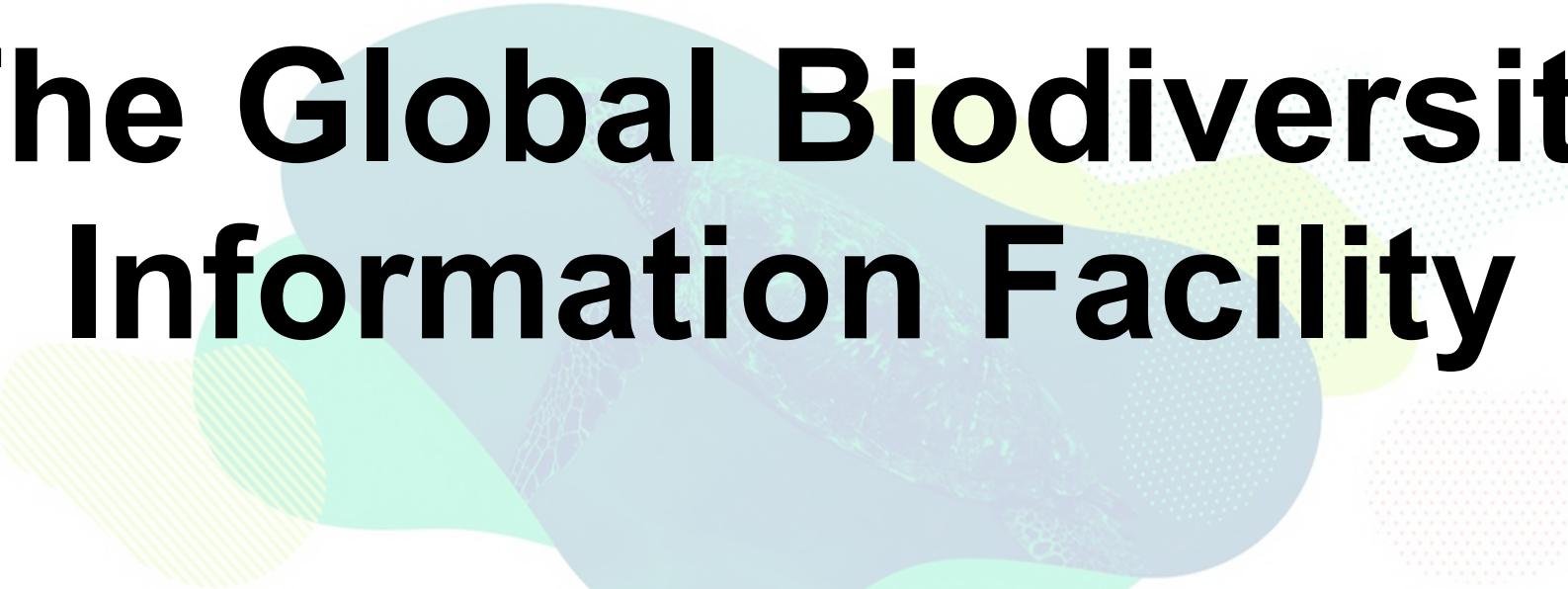


GBIF

The Global Biodiversity Information Facility



17/02/2022

Javier Fernández-López
IREC-UCLM-UCM
CEFE-CNRS

GBIF: The Global Biodiversity Information Facility

Workshop syllabus

- What is GBIF? Governance and nodes
- Data Repository vs Portal
- The Darwin Core Standard for biodiversity data
- GBIF web portal: structure
- Species, occurrences, data sets and publishers

- GBIF login: user area
- Simple searches: Backbone Taxonomy
- Advanced searches: filters
- Data download: DOI and citations
- Country, institutions and data set pages
- GBIF meets R! `rgbif` package



Theory

Practicum

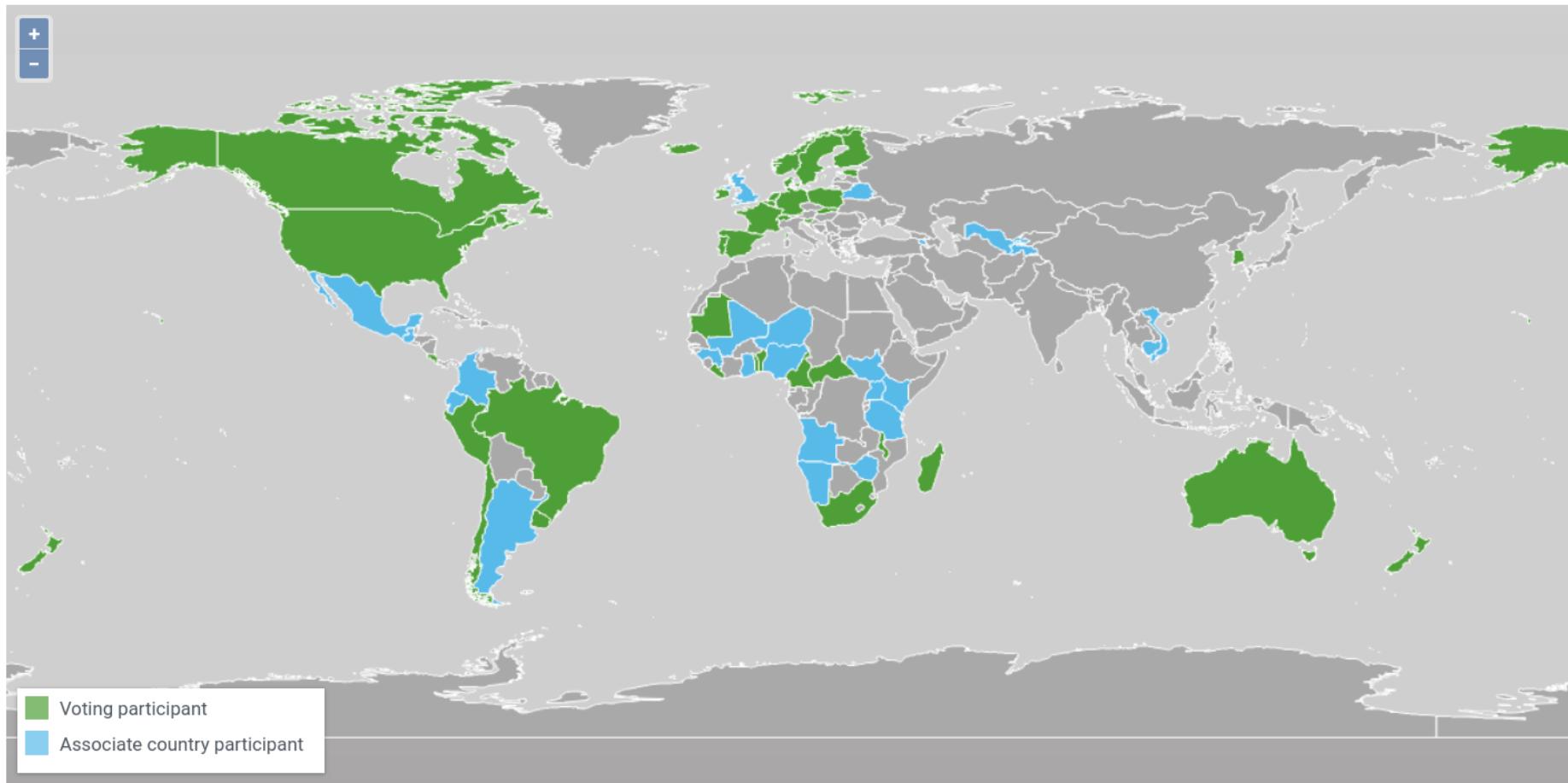
What is GBIF? Governance and nodes

GBIF is an international network and data infrastructure funded by the world's governments and aimed at providing anyone, anywhere, open access to data about all types of life on Earth.

GBIF central Secretariat: Hosted in Copenhagen, Denmark. Participation and Engagement, Data Products, Informatics, Administration



What is GBIF? Governance and nodes



What is GBIF? Governance and nodes



1.926.524.443

Occurrence records



65.507

Datasets



1789

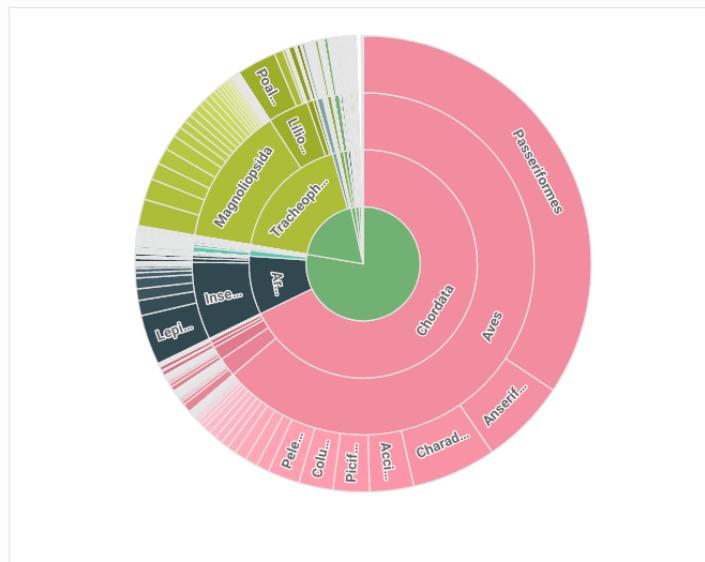
Publishing institutions



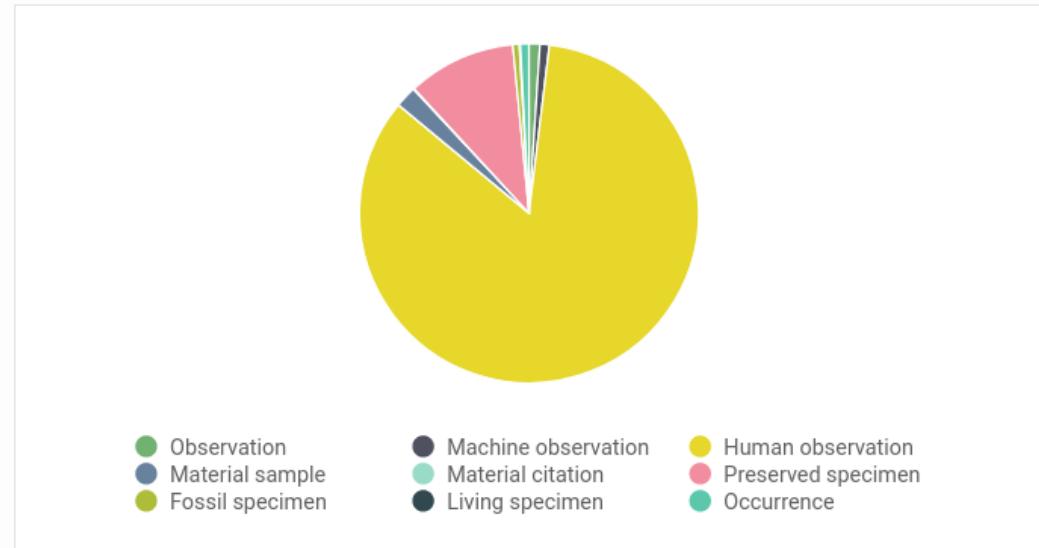
6802

Peer-reviewed papers
using data

TAXONOMIC DISTRIBUTION OF OCCURRENCES



OCCURRENCES PER BASIS OF RECORD



Data Repository vs Portal



DRYAD



GBIF

The Darwin Core Standard for biodiversity data

Record-level

Occurrence

Organism

MaterialSample

Event

Location

GeologicalContext

Identification

Taxon

MeasurementOrFact

ResourceRelationship

UseWithIRI

LivingSpecimen

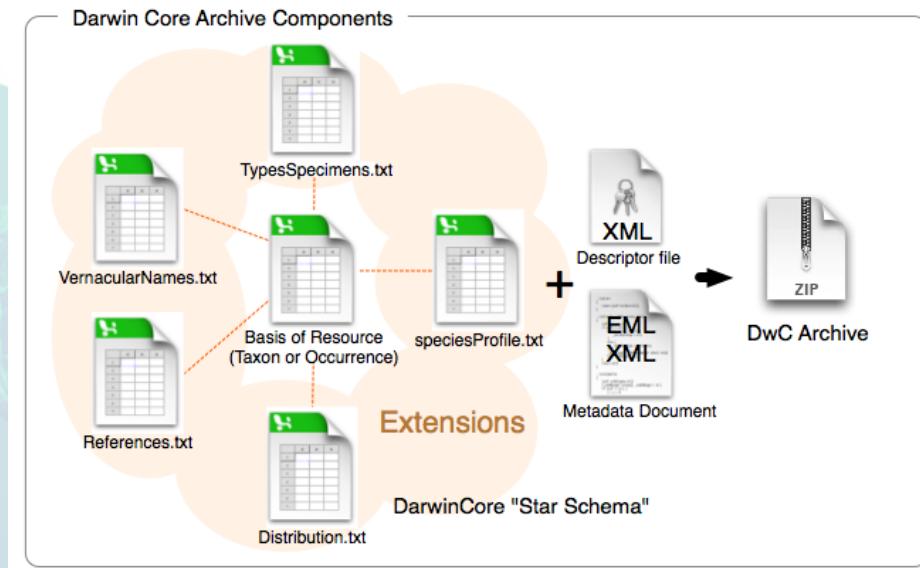
PreservedSpecimen

FossilSpecimen

MaterialCitation

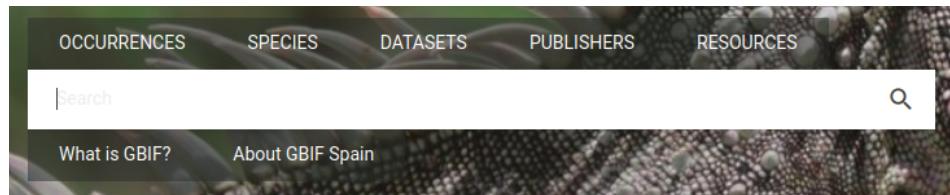
HumanObservation

MachineObservation



Darwin Core quick reference guide

Species, occurrences, data sets and publishers



Species: taxa name in the Backbone Taxonomy

Occurrences: records of whatever taxa

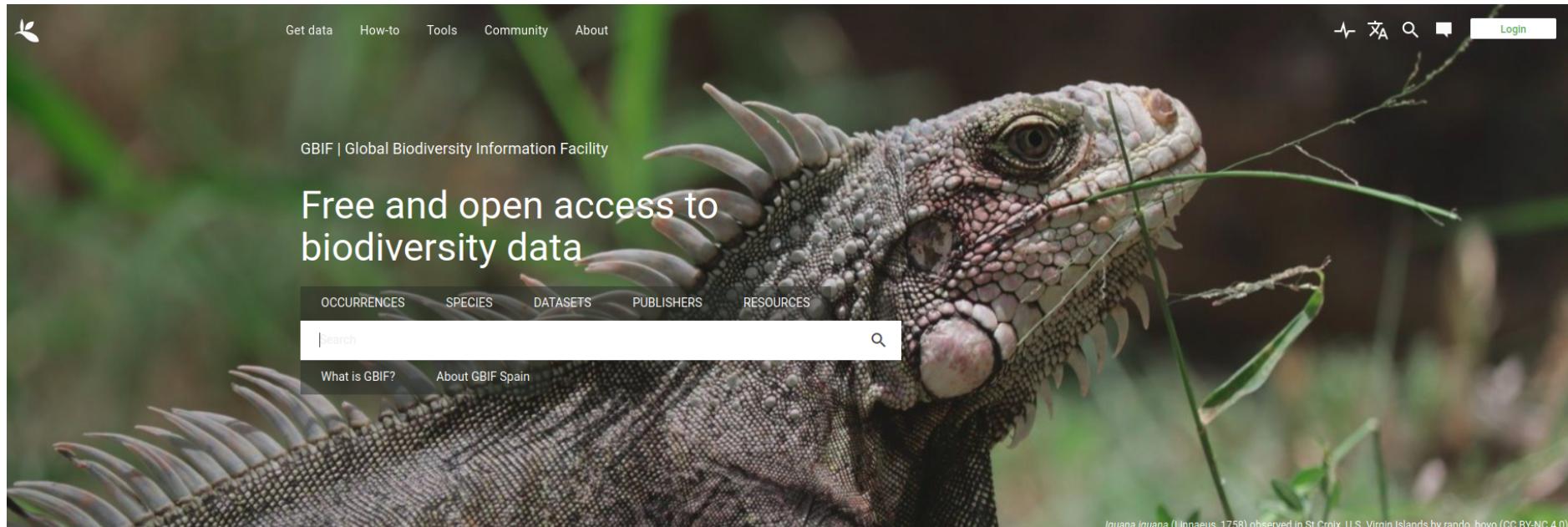
Data sets: a whole data set collected by the same person or institution

Publishers: all data related to a publisher (institution)



Practicum!

GBIF web portal: structure



Get data How-to Tools Community About

GBIF | Global Biodiversity Information Facility

Free and open access to biodiversity data

OCCURRENCES SPECIES DATASETS PUBLISHERS RESOURCES

Search

What is GBIF? About GBIF Spain

Iguana iguana (Linnaeus, 1758) observed in St Croix, U.S. Virgin Islands by rando_boyo (CC BY-NC 4.0)



1.926.524.443

Occurrence records



65.507

Datasets



1789

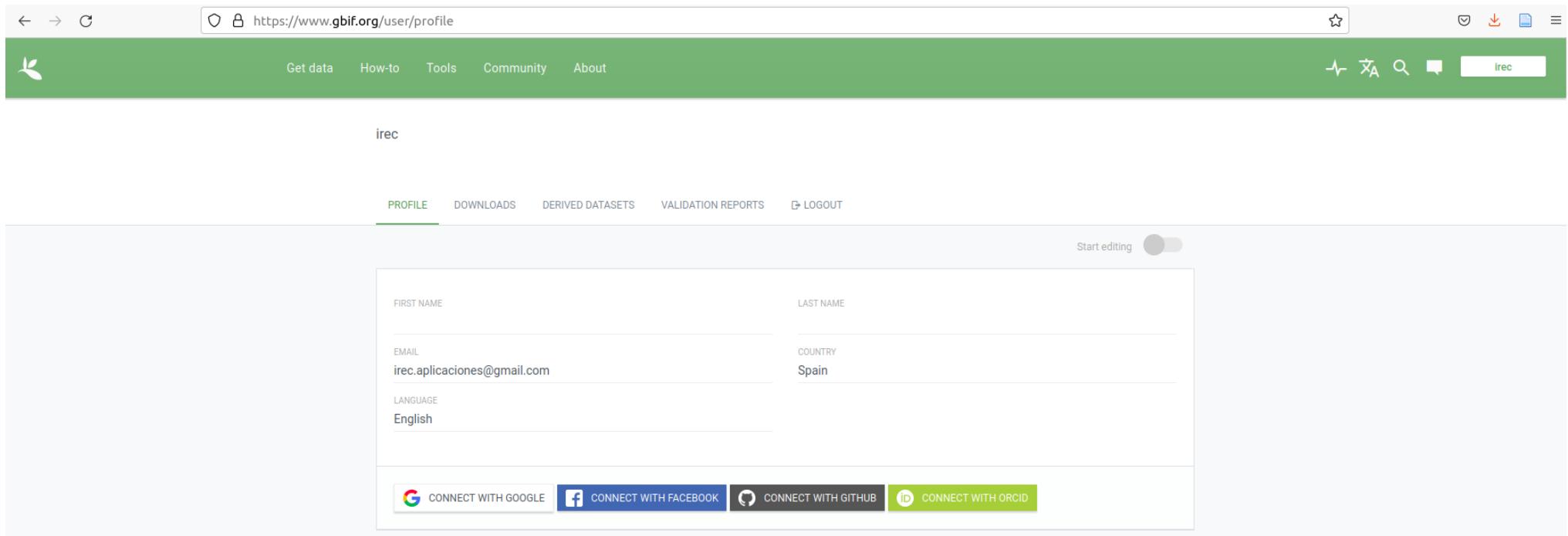
Publishing institutions



6802

Peer-reviewed papers
using data

GBIF login: user area



A screenshot of a web browser displaying the GBIF user profile page at <https://www.gbif.org/user/profile>. The page has a green header with navigation links for 'Get data', 'How-to', 'Tools', 'Community', and 'About'. On the right side of the header are icons for a star, envelope, download, file, and more. Below the header, the user's name 'irec' is displayed. The main content area shows a profile form with fields for 'FIRST NAME' (empty), 'LAST NAME' (empty), 'EMAIL' ('irec.aplicaciones@gmail.com'), 'COUNTRY' ('Spain'), 'LANGUAGE' ('English'), and a 'Start editing' toggle switch which is off. At the bottom of the form are four social media connection buttons: 'CONNECT WITH GOOGLE' (white background), 'CONNECT WITH FACEBOOK' (blue background), 'CONNECT WITH GITHUB' (dark background), and 'CONNECT WITH ORCID' (green background).

Get data How-to Tools Community About

irec

PROFILE DOWNLOADS DERIVED DATASETS VALIDATION REPORTS LOGOUT

FIRST NAME LAST NAME

EMAIL irec.aplicaciones@gmail.com COUNTRY Spain

LANGUAGE English

Start editing

CONNECT WITH GOOGLE CONNECT WITH FACEBOOK CONNECT WITH GITHUB CONNECT WITH ORCID

Simple searches: Backbone Taxonomy

CHECKLIST DATASET | REGISTERED MARCH 2, 2011

GBIF Backbone Taxonomy

Published by [GBIF Secretariat](#)

[DATASET](#) [TAXONOMY](#) [CONSTITUENTS](#) [METRICS](#) [DOWNLOAD](#) [HOME PAGE](#) [6,601 RECORDS](#) [76 CITATIONS](#)

The GBIF Backbone Taxonomy is a single, synthetic management classification with the goal of covering all names GBIF is dealing with. It's the taxonomic backbone that allows GBIF to integrate name based information from different resources, no matter if these are occurrence datasets, species pages, names from nomenclators or external sources like EOL, Genbank or IUCN. This backbone allows taxonomic search, browse and reporting operations across all those resources in a consistent way an... [More](#)

GB
Last update: November 26, 2021
Data last modified: December 9, 2021
Hosted by: [GBIF Secretariat](#)
Licence: CC BY 4.0
[How to cite](#) [DOI](#) [10.15468/39omei](#)

 3,733,556 Accepted names

 2,814,370 Synonyms

42% Overlap with Catalogue of Life

WARNING!!

Simple searches: Backbone Taxonomy

Classification

Select a species

Kingdom Animalia

Phylum Chordata

Class Mammalia

Order Carnivora

Family Mustelidae

Genus *Mustela* Linnaeus, 1758

Species Accepted name *Mustela vison* Schreber, 1777

Synonym = *Neovison vison* (Schreber, 1777)

No children

SPECIES | SYNONYM

Neovison vison (Schreber, 1777)

source: The Integrated Taxonomic Information System

American Mink In English Synonym of *Mustela vison* Schreber, 1777

40,828 OCCURRENCES

1,270 OCCURRENCES WITH IMAGES

SEE GALLERY

35,066 GEOFERENCED RECORDS

Advanced searches: filters

Occurrences  1

Search all fields 

Simple Advanced

Occurrence status

Everything Present Absent

'Absent' is applied to an occurrence record when a survey of a taxon at a specific time and place encounters no specimens

License

Scientific name

Basis of record

Location

Administrative areas (gadm.org)

Coordinate uncertainty in metres

Year

Month

Dataset

Country or area

Continent

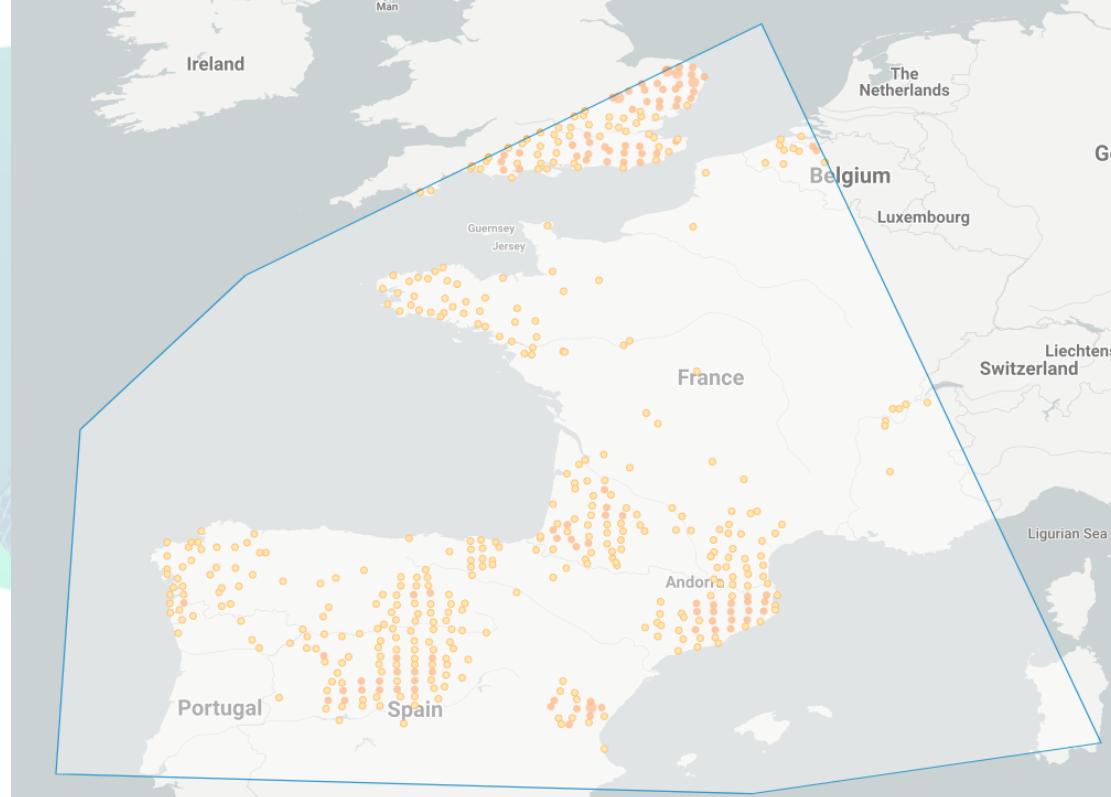
Issues and flags

Media type

Publisher

Institution code

Collection code



Data download: DOI and citations

DOWNLOAD OPTIONS

	Raw data	Interpreted data	Multimedia	Coordinates	Format	Estimated data size
 SIMPLE	x	✓	x	✓ (if available)	Tab-delimited CSV <small>?</small>	1 MB (318 KB zipped for download)
 DARWIN CORE ARCHIVE	✓	✓	✓ (links)	✓ (if available)	Tab-delimited CSV <small>?</small>	4 MB (973 KB zipped for download)
 SPECIES LIST	x	✓	x	x	Tab-delimited CSV <small>?</small>	

DOWNLOAD REPORT

Total: 2674

Licence: CC BY-NC 4.0

Year range: 1978–2020

With year: 62 %

With coordinates: 94 %

With taxon match: 100 %

Known issues

A part of the GBIF processing is to flag occurrences that have suspicious fields

1237 Coordinate precision invalid 621 References URI invalid 128 Recorded date invalid 100 Footprint WKT invalid

44 Occurrence status inferred from individual count 4 Country derived from coordinates

Living specimens

Your search includes living specimens such as occurrences in botanical and zoological gardens.



Country, institutions and data set pages

OCCURRENCE DATASET | REGISTERED MAY 29, 2020

Mammal records for Europe via the iMammalia app

Published by [Biological Records Centre](#)

Roy D

DATASET PROJECT METRICS ACTIVITY DOWNLOAD HOME PAGE 5,891 OCCURRENCES 32 CITATIONS

Project ID <https://european-mammals.brc.ac.uk/>

Mammal records for Europe via the iMammalia app

Opportunistic recordings of wild mammals across Europe, submitted via the iMammalia mobile app.
Part of the MammalNet Project (<https://mammalnet.com/>)

Study area
Europe

Description
iMammalia application developed by flumens.io

Funding
European Food Safety Authority

Contacts

David Roy
Content provider
<http://www.researcherid.com/rid/A-6619-2009>

GBIF meets R! `rgbif` package



Tutorial: Searching and downloading species occurrences using `rgbif` R package



Thank you!