

# **GBIF**

# **The Global Biodiversity Information Facility**

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# 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
- Theory
- 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
- Practicum
-

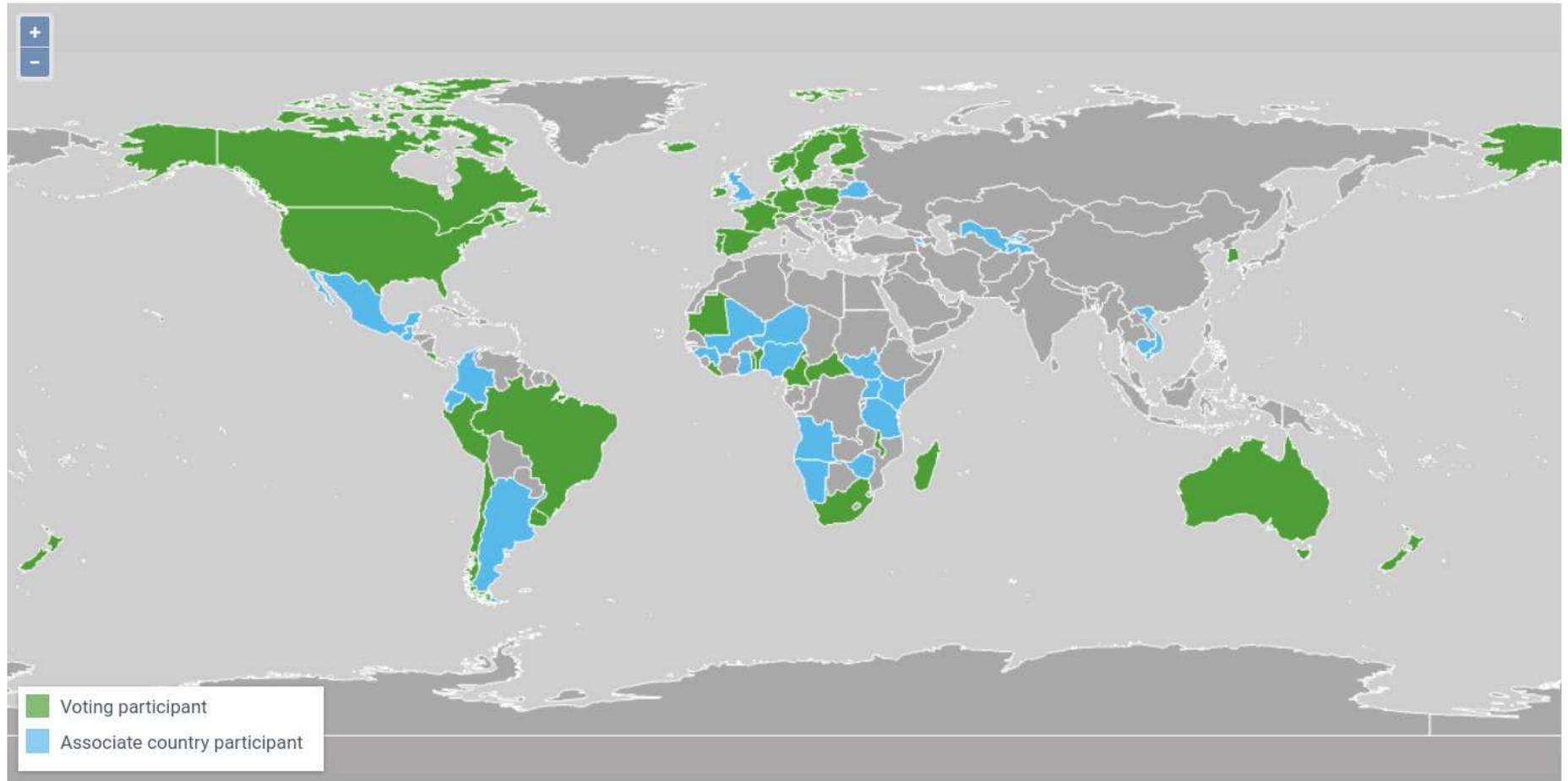
# What is GBIF? Governance and nodes

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.

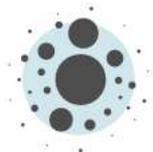
GBIF central Secretariat: Hosted in Copenhagen, Denmark. Participation and Engagement, Data Products, Informatics, Administration



# What is GBIF? Governance and nodes



# What is GBIF? Governance and nodes



1.926.524.443

Occurrence records



65.507

Datasets



1789

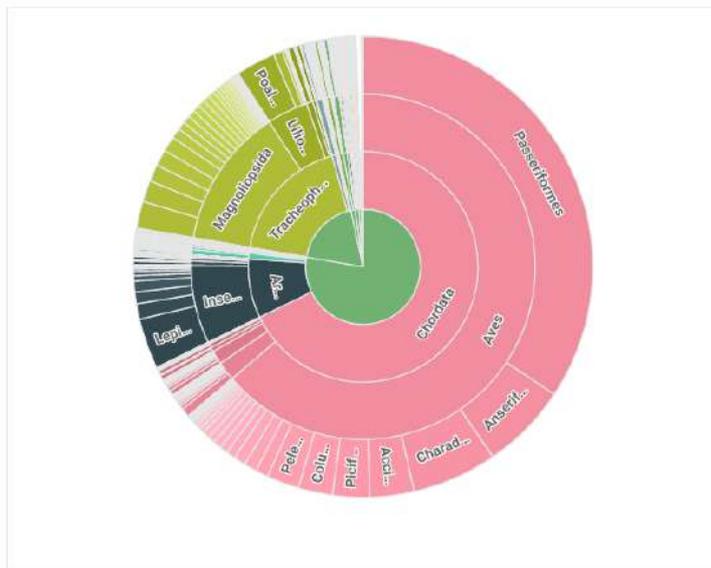
Publishing institutions



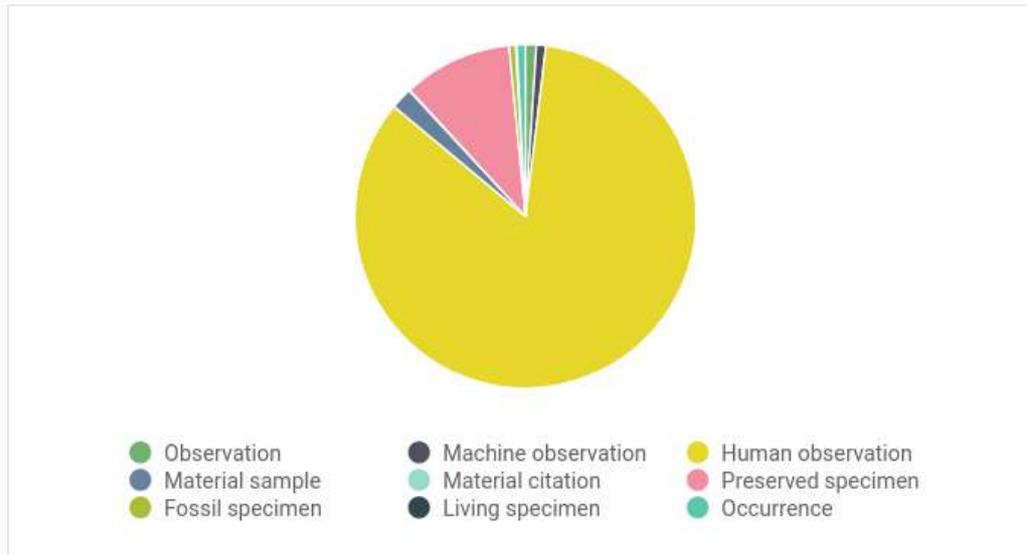
6802

Peer-reviewed papers  
using data

TAXONOMIC DISTRIBUTION OF OCCURRENCES



OCCURRENCES PER BASIS OF RECORD



# Data Repository vs Portal



**DRYAD**



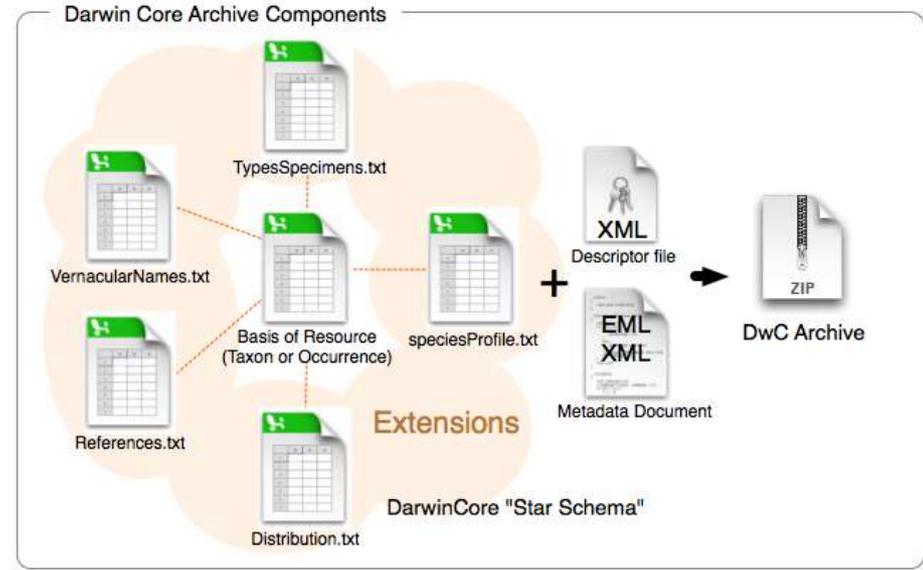
**GBIF**

# The Darwin Core Standard for biodiversity data

Record-level  
Occurrence  
Organism  
MaterialSample  
Event  
Location  
GeologicalContext  
Identification  
Taxon  
MeasurementOrFact  
ResourceRelationship  
UseWithIRI

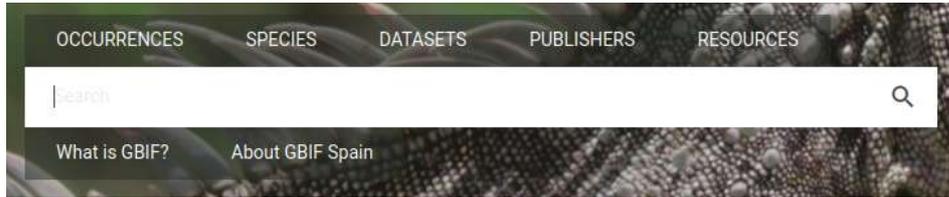
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LivingSpecimen  
PreservedSpecimen  
FossilSpecimen  
MaterialCitation  
HumanObservation  
MachineObservation



[Darwin Core quick reference guide](#)

# Species, occurrences, data sets and publishers



**Species:** taxa name in the Backbone Taxonomy

**Occurrences:** records of whatever taxa

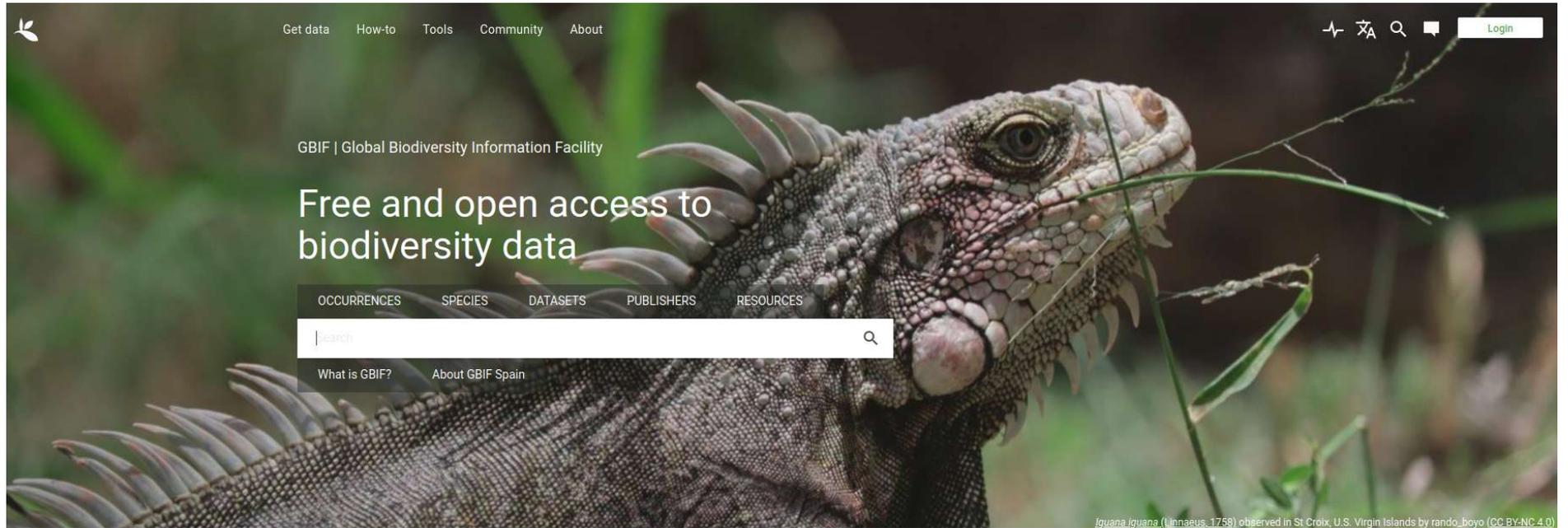
**Data sets:** a whole data set collected by the same person or institution

**Publishers:** all data related to a publisher (institution)



**Practicum!**

# GBIF web portal: structure



1.926.524.443

Occurrence records



65.507

Datasets



1789

Publishing institutions



6802

Peer-reviewed papers  
using data

# GBIF login: user area

The screenshot shows a web browser window with the URL <https://www.gbif.org/user/profile>. The page features a green navigation bar with the GBIF logo and menu items: Get data, How-to, Tools, Community, and About. On the right side of the navigation bar, there are icons for zoom, language, search, and a user profile dropdown menu showing the name 'irec'. Below the navigation bar, the user's name 'irec' is displayed. A secondary navigation bar contains links for PROFILE, DOWNLOADS, DERIVED DATASETS, VALIDATION REPORTS, and LOGOUT. The main content area is a light blue box containing a profile card. The profile card has a 'Start editing' toggle switch in the top right corner. The profile information is as follows:

|                                      |                  |
|--------------------------------------|------------------|
| FIRST NAME                           | LAST NAME        |
| EMAIL<br>irec.aplicaciones@gmail.com | COUNTRY<br>Spain |
| LANGUAGE<br>English                  |                  |

At the bottom of the profile card, there are four social media connection buttons: CONNECT WITH GOOGLE, CONNECT WITH FACEBOOK, CONNECT WITH GITHUB, and 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](#)

6,733,556 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](#)

GBIF

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[How to cite](#) [DOI](#) [10.15468/39ome1](#)

 3,733,556  
Accepted names

 2,814,370  
Synonyms

42%

Overlap with Catalogue of Life

**WARNING!!**

# Simple searches: Backbone Taxonomy

**Classification**

Select a synonym

Kingdom **Animalia**

Phylum **Chordata**

Class **Mammalia**

Order **Carnivora**

Family **Mustelidae**

Genus ***Mustela* Linnaeus, 1758**

Accepted name  
Species: ***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**

OVERVIEW | 1 TREATMENT | METRICS | REFERENCE TAXON ⇌

40,828 OCCURRENCES

1,270 OCCURRENCES WITH IMAGES



SEE GALLERY

35,066 GEOREFERENCED RECORDS



# Advanced searches: filters

Occurrences

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

Licence

Scientific name

Basis of record

Location

Administrative areas (gadm.org)

Coordinate uncertainty in metres

Year

Month

Dataset

Country or area

Continent

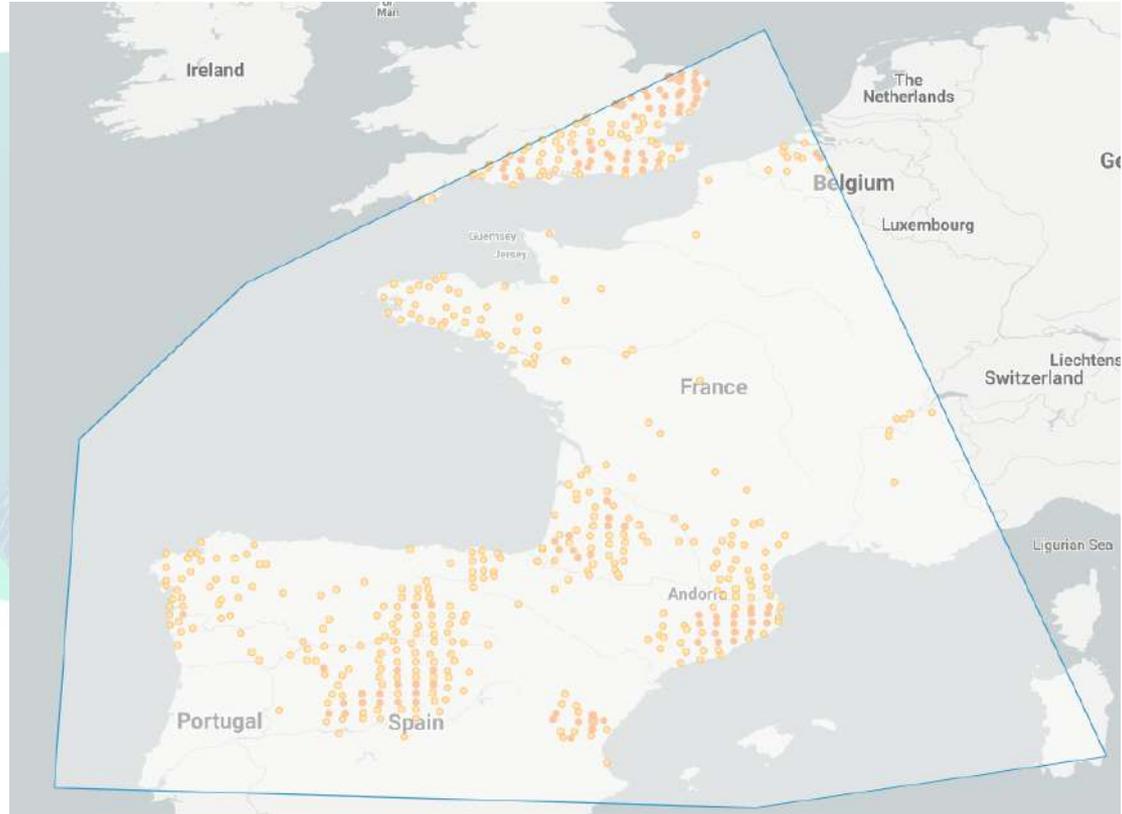
Issues and flags

Media type

Publisher

Institution code

Collection code



# Data download: DOI and citations

## DOWNLOAD OPTIONS

|                                     | Raw data | Interpreted data | Multimedia | Coordinates      | Format              | Estimated data size                         |
|-------------------------------------|----------|------------------|------------|------------------|---------------------|---|
| <a href="#">SIMPLE</a>              | ✗        | ✓                | ✗          | ✓ (if available) | Tab-delimited CSV ⓘ | <b>1 MB</b><br>(318 KB zipped for download) |
| <a href="#">DARWIN CORE ARCHIVE</a> | ✓        | ✓                | ✓ (links)  | ✓ (if available) | Tab-delimited CSV ⓘ | <b>4 MB</b><br>(973 KB zipped for download) |
| <a href="#">SPECIES LIST</a>        | ✗        | ✓                | ✗          | ✗                | Tab-delimited CSV ⓘ |   |

## 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.

2,674 occurrences included in download

[DOI 10.15468/dl.ak5m6n](https://doi.org/10.15468/dl.ak5m6n)

# 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

The background features a central silhouette of a turtle, rendered in a light blue color. This silhouette is overlaid on a series of overlapping, semi-transparent shapes in various shades of green and blue. Some of these shapes have a dotted or grid-like pattern, while others are solid. The overall aesthetic is modern and scientific.



**Thank you!**