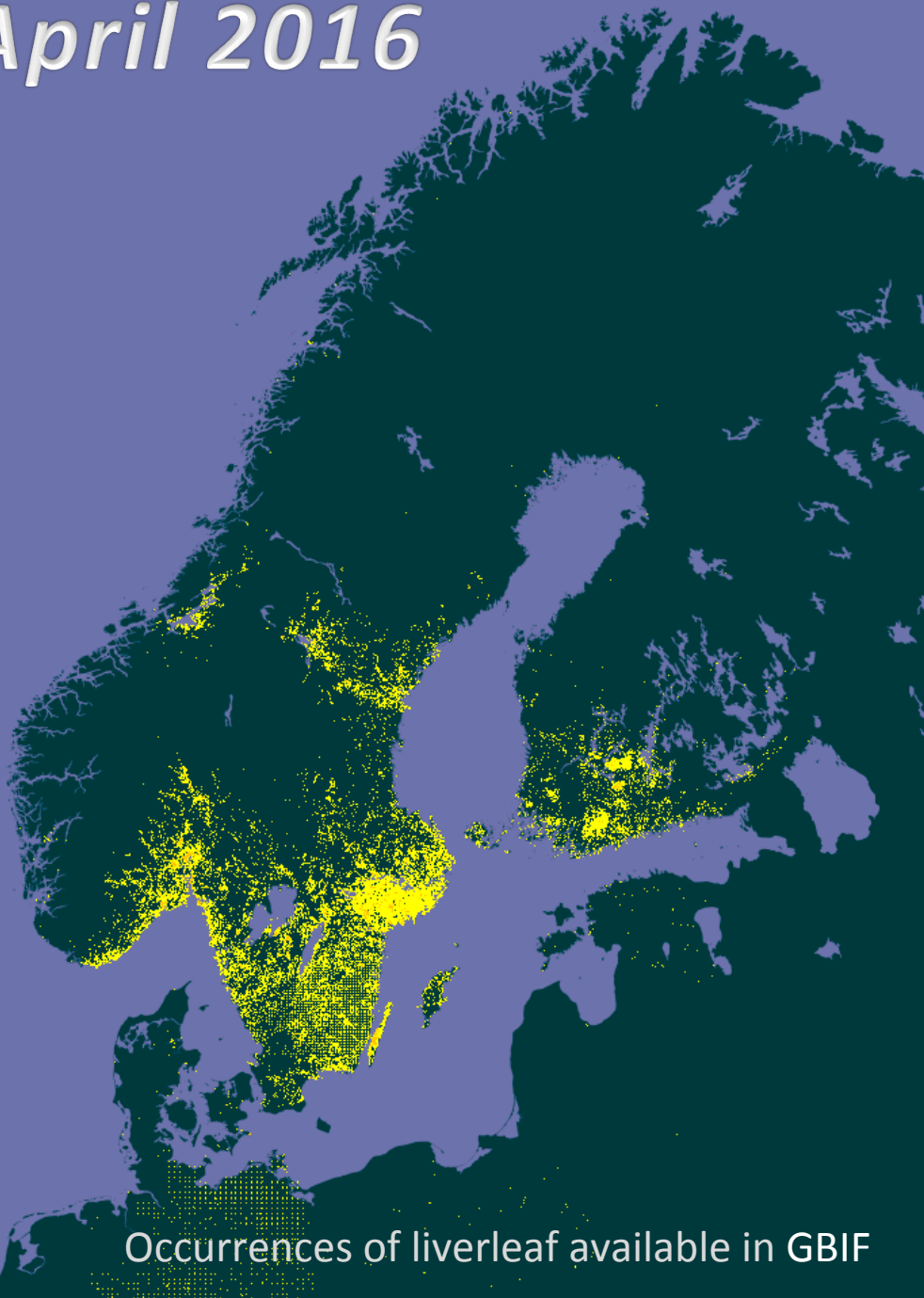


# #HepaticaWeek

## April 2016



Occurrences of liverleaf available in GBIF

Photo by Dag Endresen, March 2016



**GBIF Norway**



**UiO** ● **Natural History Museum**  
University of Oslo

# CITIZEN SCIENCE REPORT – WHAT HAPPENS NEXT?

Conversion to standardized  
format (Darwin Core)

Quality assessment

Publication in GBIF

Data accessed by scientists  
and other users



[Data](#) ▾[News](#) ▾[Community](#) ▾[About](#) ▾

# Global Biodiversity Information Facility

Free and Open Access to Biodiversity Data

Status  
12 April 2016

651,368,995

OCCURRENCES

1,634,951

SPECIES

21,938

DATASETS

805

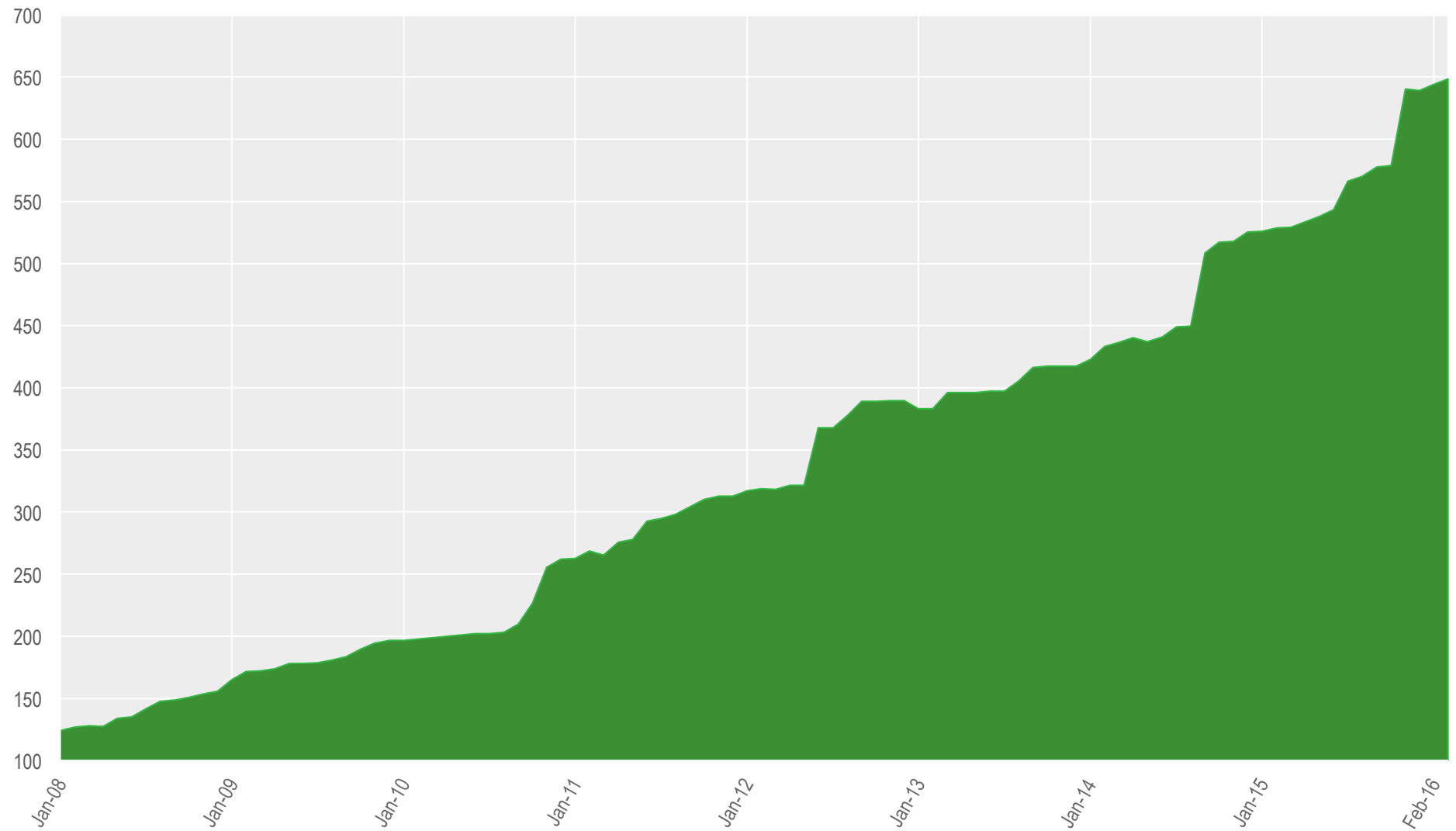
DATA PUBLISHERS

**GBIF enables *free and open access to biodiversity data* online.**

We are an international government-initiated and -funded initiative focused on making biodiversity data available to all and anyone, for scientific research, conservation and sustainable development.

# DATA PUBLISHED THROUGH GBIF.ORG

*Occurrence records (millions)*



**March 2016:**

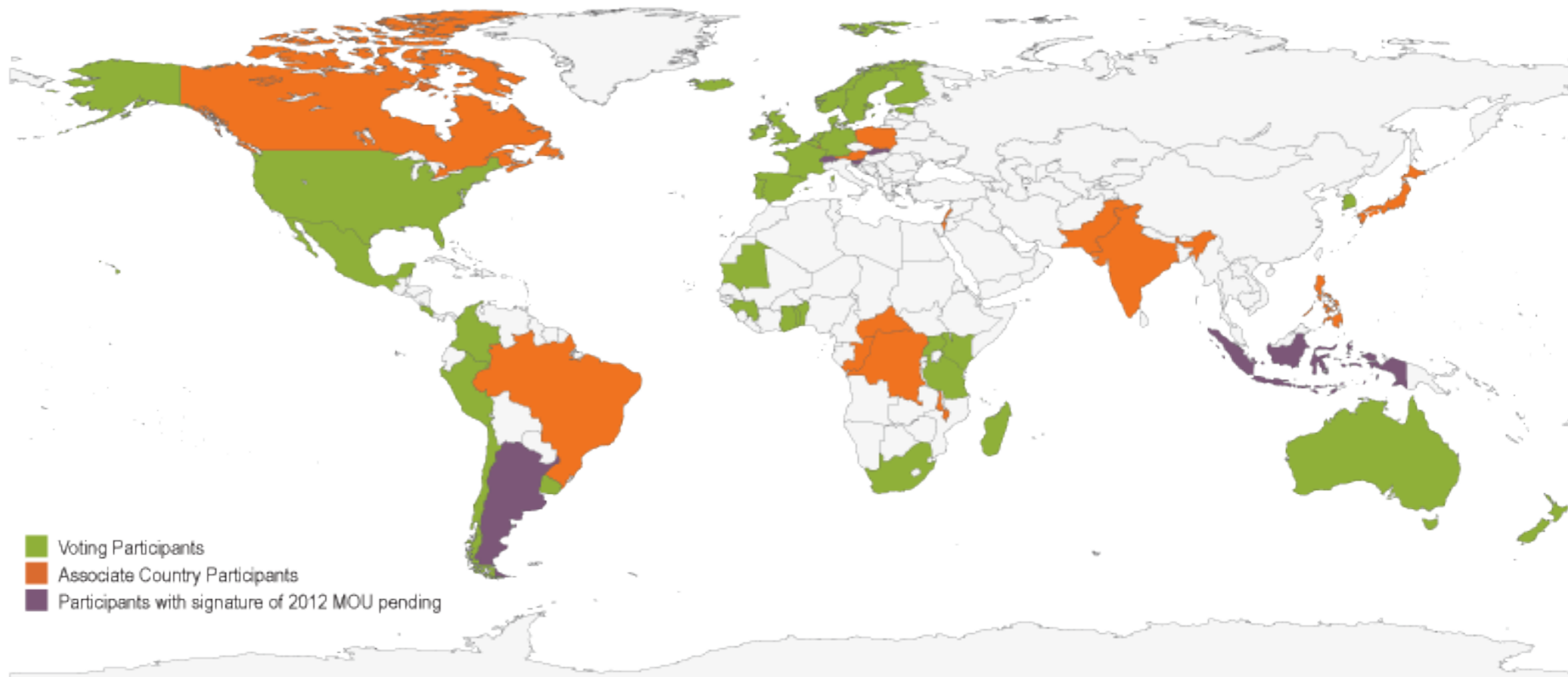
**+4,166,212**  
species occurrence records

**+366**  
datasets

**+6**  
data-publishing institutions



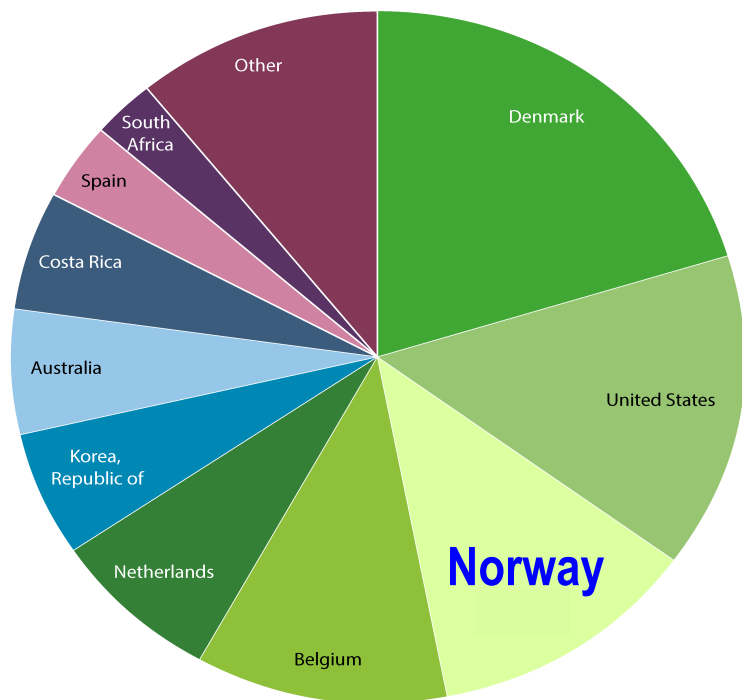
# MAP OF GBIF COUNTRY PARTICIPANTS



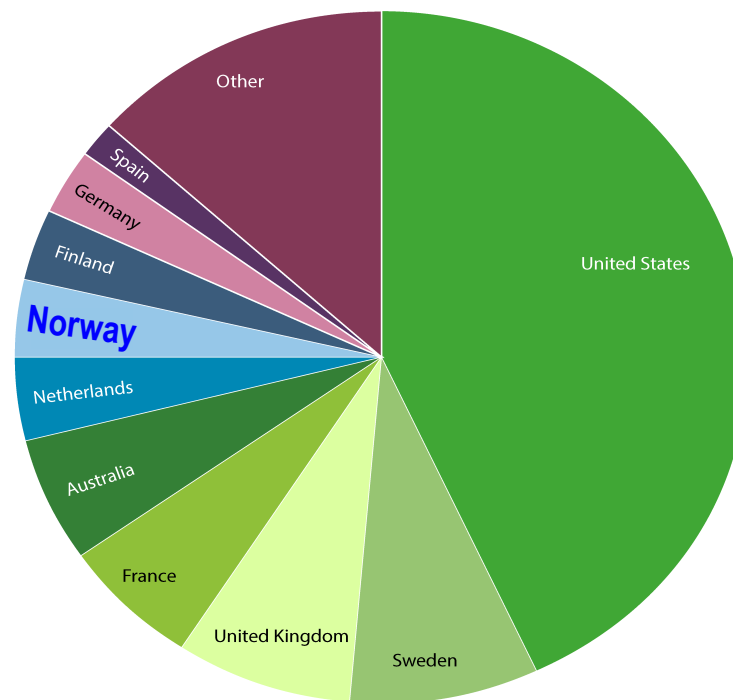
**38 COUNTRY MEMBERS**  
**16 ASSOCIATE COUNTRIES**  
**40 ORGANIZATIONS**

**NORWAY JOINED GBIF  
 IN FEBRUARY 2004.**

# DATA—BY GBIF PARTICIPANT



Number of new records published—Top 10 participant Countries  
(1 to 31 March 2016)



Total number of records published—Top 10 Participant Countries  
(as of 31 March 2016)

1. Denmark	2,972,094	6. Rep. of Korea	867,846
2. United States	2,198,532	7. Australia	851,138
3. Norway	1,740,039	8. Costa Rica	808,503
4. Belgium	1,620,423	9. Spain	521,730
5. Netherlands	1,089,171	10. South Africa	422,521

1. United States	276,045,103	6. Netherlands	24,235,610
2. Sweden	53,689,661	7. Norway	23,366,646
3. United Kingdom	49,707,687	8. Finland	20,634,024
4. France	39,848,574	9. Germany	19,436,198
5. Australia	37,480,629	10. Spain	11,911,359

**NOTE:** Datasets are assigned to countries according to the location of the publishing institution, including aggregated datasets with contributors from many other countries. <http://www.gbif.org> | 01 APR 2016

GBIF portal:

**24,4 million** occurrences with locations in Norway.  
Published from 32 countries worldwide.



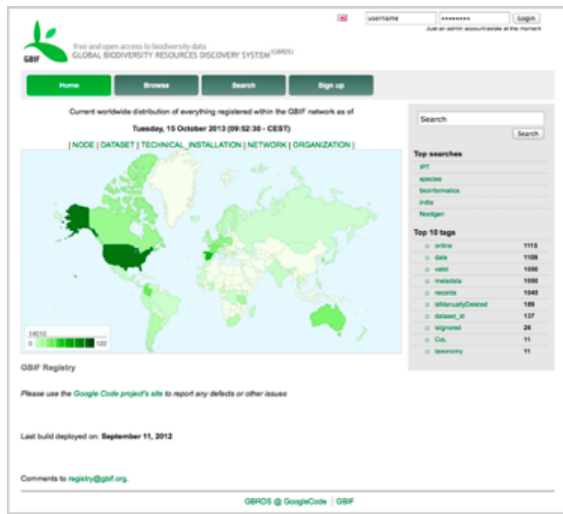
2/28



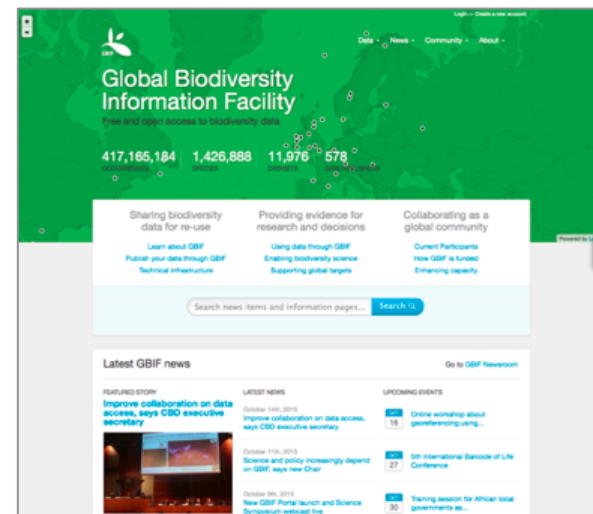
# **Data publishing infrastructure**

# GBIF provides a data discovery system

*that is dependent on resolvable stable identifiers for efficient functionality*



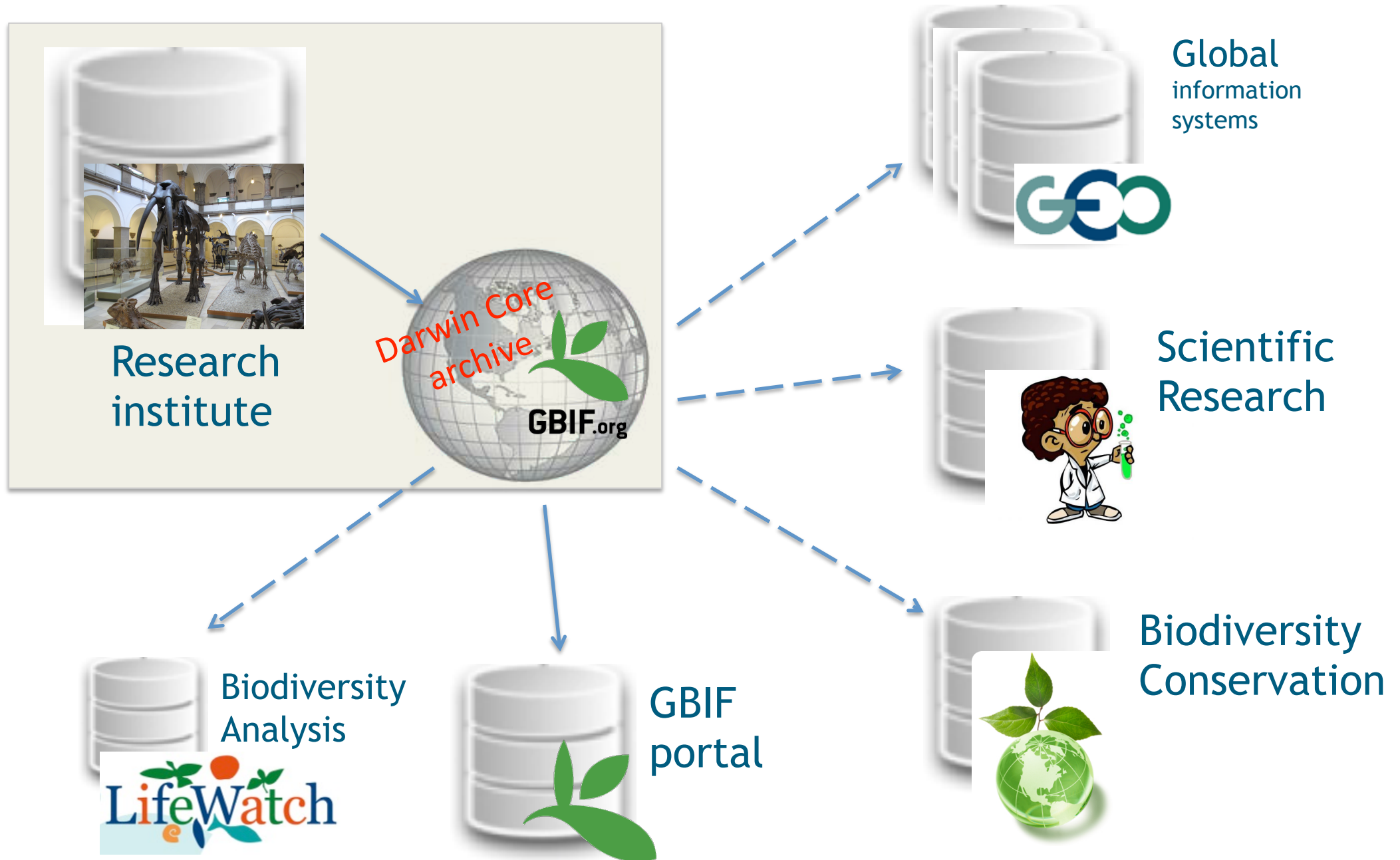
global registry



data portal



# MULTIPLE-PURPOSE DATA SERVICES



# GBIF and GEO

Intergovernmental group on earth observations

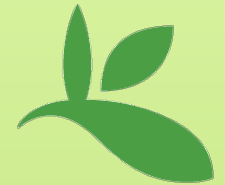
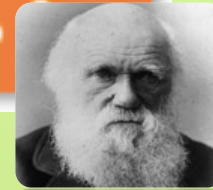


## Data Integration & Interoperability

GBIF provides the infrastructure delivering species occurrence data in GEO.



Biodiversity  
Information  
Standards  
T D W G



**GBIF.org**

# Darwin Core

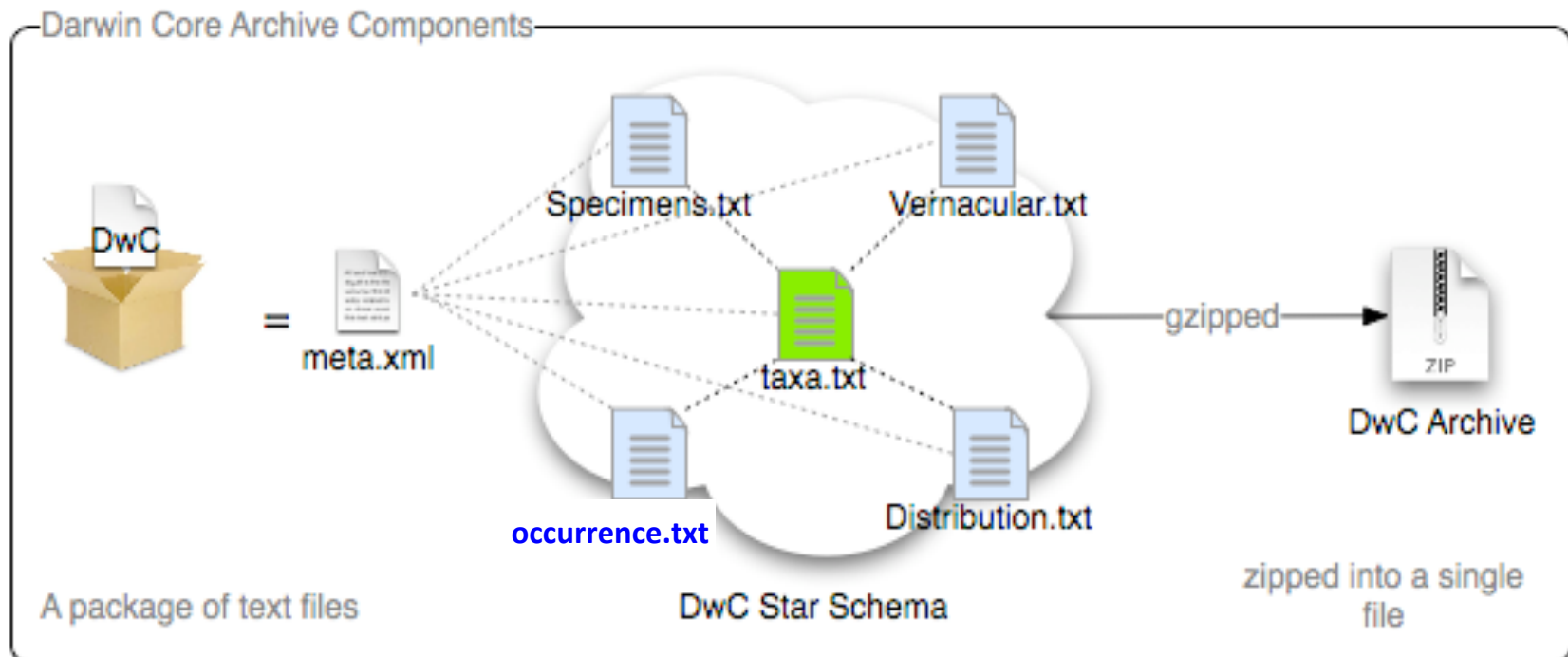
data exchange standard

# Darwin Core – a vocabulary of terms



# DARWIN CORE ARCHIVE (DWC-A)

- ❖ DwC-A publish DwC records including terms from DwC-A extensions.
- ❖ Simple text based format.
- ❖ Zipped single file archive.



**Publish your biodiversity  
data with GBIF**





# PUBLISH DATA IN GBIF

Step 1: data holding research institutes seek **endorsement** as an approved data publisher.

Step 2: datasets are identified and converted to standard **Darwin Core** format.

Step 3: datasets can be **published** directly from the data node and/or with the assistance from a national GBIF node.

**Citizen science data platforms also publish in GBIF.**

# Citizen Science platforms publish biodiversity observations in GBIF.

## ARTPORTALEN

42 mill. occurrences published in GBIF

## Artsobservasjoner

16 mill. occurrences published in GBIF

## eBird

212 mill. occurrences published in GBIF

## iNaturalist

951,235 occurrences published in GBIF

## DIVEBOARD

28,990 occurrences published in GBIF

## animals + plants

14,719 occurrences published in GBIF

and many more ...

The screenshot shows the GBIF website's 'Publishing data' page. The top navigation bar includes 'Data', 'News', 'Community', and 'About'. A dropdown menu for 'Data' is open, showing options like 'Explore occurrences', 'Explore species', 'Explore dataset', 'Explore by country', and 'Explore data trends'. The 'Publishing data' section is highlighted with a green background and contains a sub-menu with 'Request endorsement' selected. Below this, the 'Intro' section is visible, followed by the 'Why this form?' section. The 'Why this form?' section explains the endorsement process and lists five criteria for data publication. At the bottom of the page, there are four columns of links: 'JOIN THE COMMUNITY', 'WHO'S PARTICIPATING', 'KEY DOCUMENTS', and 'FOR DEVELOPERS'.

Global Biodiversity Information Facility

Data News Community About

Q News and articles

Explore occurrences  
Explore species  
Explore dataset  
Explore by country  
Explore data trends

Publishing data  
Using Data  
Infrastructure

Summary Quick guide Benefits Endorsement Request endorsement Data papers Resources

Intro

### Why this form?

To start the process of publishing data through GBIF, we ask new prospective publishers to complete this online questionnaire.

The process seeks to confirm the quality, interoperability and discoverability of data published through GBIF and to ensure that publishers receive proper credit and attribution. Learn more about [benefits](#), [guidelines](#), and [resources](#) elsewhere in [this section](#).

Before GBIF indexes new datasets, a data-holding organization or institution must receive endorsement as a data publisher from a [GBIF Participant node](#) or the [Participant Node Managers Committee](#).

The endorsement procedure aims to ensure that:

1. Published data are relevant to GBIF's scope and objectives
2. Data hosting arrangements are stable and persistent
3. Data publishing and use are supported by strong national, regional and thematic engagement
4. Data are as open and available for sharing and reuse as possible
5. Data publishers can respond to feedback and improve data quality

To help endorsing node make informed decisions, we ask new prospective data publishers to complete this online questionnaire.

**Note:** at present, GBIF and its Participants only publish data from organizations — that is, institutions, networks and societies — rather than individuals. Individuals wishing to publish data should work through their affiliated organizations to seek endorsement as a publisher.

I understand. Proceed →

JOIN THE COMMUNITY  
Join GBIF Community Site  
Sign up to GBIFs newsletter  
GBIF Online Resource Centre

WHO'S PARTICIPATING  
Countries  
Organizations  
Data publishers

KEY DOCUMENTS  
Privacy policy  
Disclaimer  
Data use agreement  
Data sharing agreement

FOR DEVELOPERS  
Portal API  
Developer blog  
Tools



# Your observations

[Home](#)
[Observations](#)
[Calendar](#)
[Favorites](#)
[Lists](#)
[Journal](#)
[IDs](#)
[Projects](#)
[Profile](#)

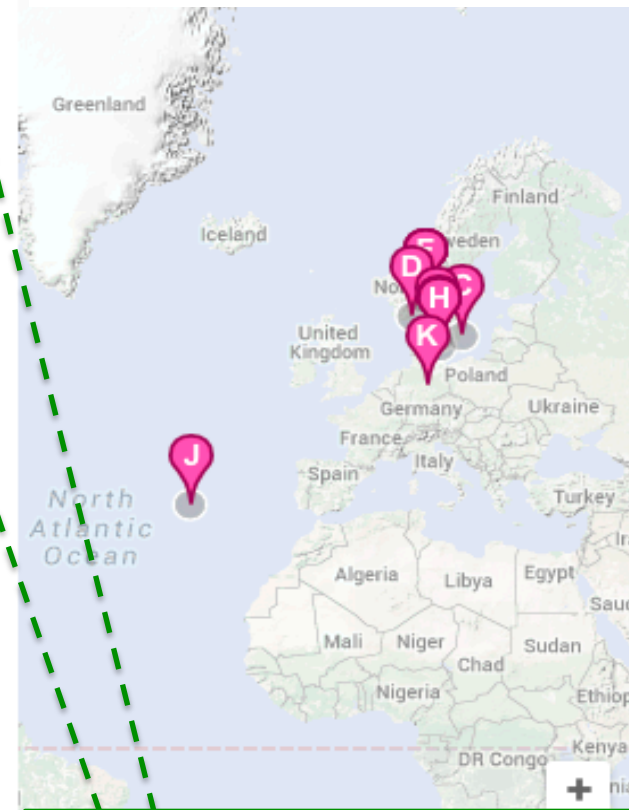
Add observations

Batch edit

Search

Photos / Sounds	Species / Taxon Name	Date observed	Place	Date added ▾	
	<b>Coltsfoot</b> <i>Tussilago farfara</i>	April 10, 2016 06:01 PM SAST	Etterstadkroken, Oslo, Oslo, NO (Google, OSM)	April 10, 2016 08:02 PM CEST	1 ID <b>Research Grade</b> Edit   View »
	<b>Coltsfoot</b> <i>Tussilago farfara</i>	April 10, 2016 05:14 PM SAST	Arnljot Gellines vei 1-25, Oslo, Oslo, NO (Google, OSM)	April 10, 2016 08:02 PM CEST	1 ID <b>Research Grade</b> Edit   View »
	<b>Liverleaf</b> <i>Anemone hepatica</i>	March 25, 2016 11:40 AM CET	Borg, Kalmar, Sweden (Google, OSM)	March 30, 2016 01:03 PM CEST	2 IDs <b>Research Grade</b> Edit   View »
 <a href="#">2 photos »</a>	<b>sea kale</b> <i>Crambe maritima</i>	July 27, 2013 02:16 PM CEST	Tromoy, Aust-Agder Fylke, Norway (Google, OSM)	August 07, 2015 03:17 PM CEST	<b>Needs ID</b> Edit   View »
	<b>Common Hop</b> <i>Humulus lupulus</i>	October 3, 2014 04:25 PM CEST	Oslo, Oslo Fylke, Norway (Google, OSM)	October 06, 2014 02:30 PM CEST	2 IDs <b>Research Grade</b> Edit   View »
	<b>cultivated timothy</b> <i>Phleum pratense</i>	June 25, 2014 12:04 PM CEST	Hovedøya, Oslo, Norway (Google, OSM)	September 20, 2014 10:22 PM CEST	1 ID <b>Research Grade</b> Edit   View »

to **iNaturalist.org**, where you can **record** what you see in nature, **meet** other nature lovers, and **learn** about the natural world.



### External Links

This observation has been incorporated into the following external websites:

- GBIF



## Research Grade

### External Links

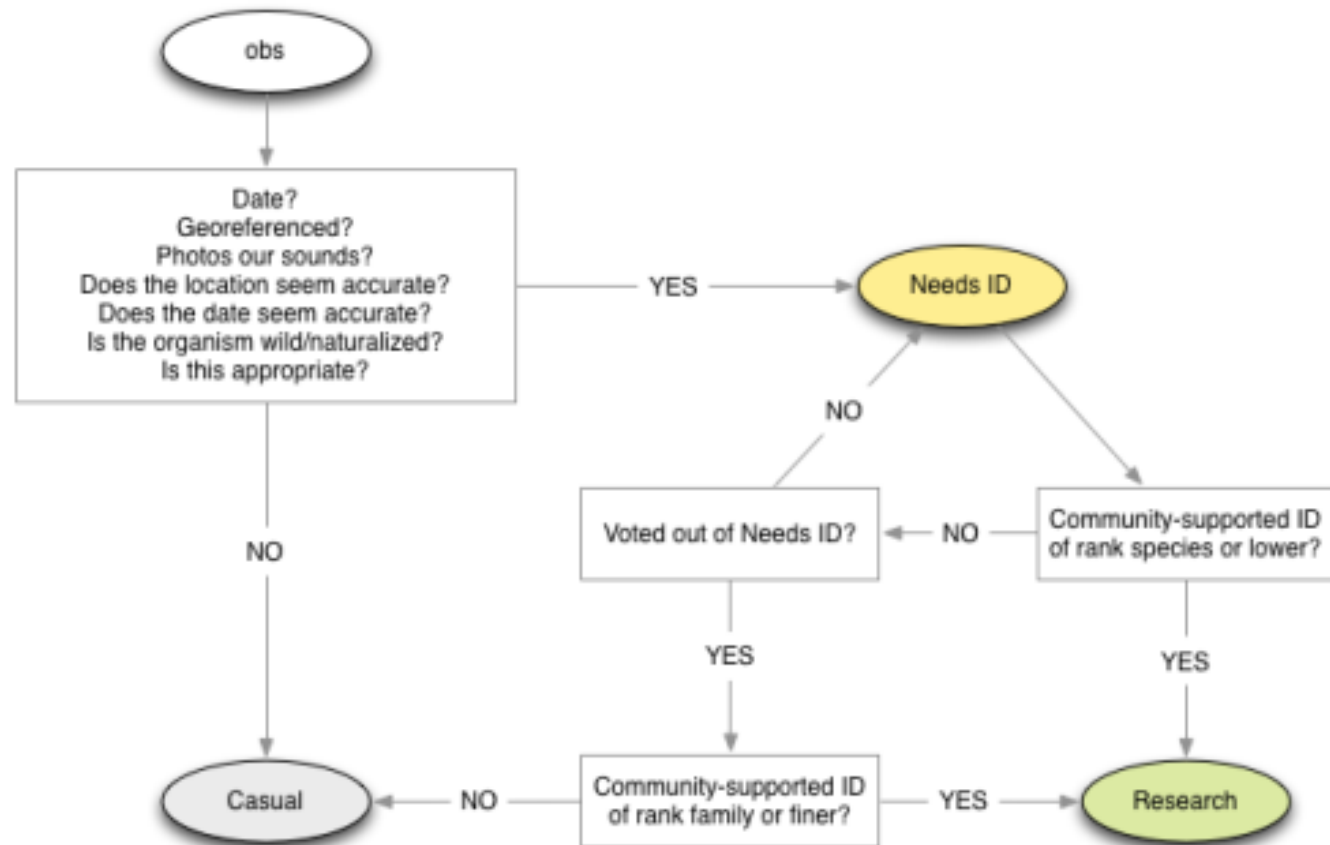
This observation has been incorporated into the following external websites:

[GBIF](#)

**Research grade:** an observation must have **media, coordinates, a date, and pass quality metrics**, but now the **community ID** must be finer than family.

**Needs ID:** Any observation that could become “Research” grade but *needs more identifications*.

**Casual:** Any observation that cannot become “Research” grade.



**Download data**



# Global Biodiversity Information Facility

Free and Open Access to Biodiversity Data

Data ▾

News ▾

Community ▾

About ▾

[Explore occurrences](#)

[Explore species](#)

[Explore dataset](#)

[Explore by country](#)

[Explore data trends](#)

[Publishing data](#)

[Using Data](#)

[Infrastructure](#)

651,368,995

OCCURRENCES

1,634,951

SPECIES

22,051

DATASETS

805

DATA PUBLISHERS

## Sharing biodiversity data for re-use

[Learn about GBIF](#)

[Publish your data through GBIF](#)

[Technical infrastructure](#)

## Providing evidence for research and decisions

[Using data through GBIF](#)

[Enabling biodiversity science](#)

[Supporting global targets](#)

## Collaborating as a global community

[Current Participants](#)

[How GBIF is funded](#)

[Enhancing capacity](#)



# Search 1,634,951 species

of the [GBIF Backbone Taxonomy](#)

 [Search](#) 🔍

[Mammals](#) · [Birds](#) · [Insects](#) · [Reptiles](#) · [Fishes](#) · [Butterflies](#) · [Fungi](#) · [Flowering Plants](#)





# Search species



## 20 results for "Hepatica nobilis"

### SPECIES SYNONYM

**[Hepatica nobilis Schreb.](#)** for Anemone americana (DC.) H. Hara

Plantae › Magnoliophyta › Magnoliopsida › Ranunculales › Ranunculaceae › Anemone ›

Anemone americana

Das Leberblümchen (*Hepatica nobilis*, Syn. Anemone hepatica) gehört zur Familie der Hahnenfu...

### ACCEPTED FORM

**[Hepatica nobilis f. nobilis](#)**

Plantae › Magnoliophyta › Magnoliopsida › Ranunculales › Ranunculaceae › Anemone ›

Anemone americana

### ACCEPTED FORM

**[Hepatica nobilis f. acutiloba Beck](#)**

Plantae › Magnoliophyta › Magnoliopsida › Ranunculales › Ranunculaceae › Anemone ›

Anemone americana

### DATASET

- [GBIF Backbone Taxonomy](#) (20)
- [International Plant Names...](#) (21)
- [The Plant List with liter...](#) (20)
- [English Wikipedia - Speci...](#) (16)
- [Catalogue of Life](#) (10)
- [NCBI Taxonomy](#) (7)

[more >](#)

### HIGHER TAXON

- [Plantae](#) (18)
- [Magnoliophyta](#) (18)
- [Magnoliopsida](#) (18)
- [Ranunculales](#) (18)
- [Ranunculaceae](#) (18)
- [Anemone](#) (17)

[more >](#)

### RANK

- [form](#) (11)
- [variety](#) (4)
- [species](#) (3)
- [genus](#) (2)

### STATUS

- [Accepted](#) (14)
- [Synonym](#) (6)



# Hepatica nobilis Schreb.

Species synonym in GBIF Backbone Taxonomy

Plantae · Magnoliophyta · Magnoliopsida · Ranunculales · Ranunculaceae · Anemone · Anemone americana

55,250

Occurrences

0

Infraspecies

[View occurrences](#)

## Information

## Overview

### FULL NAME

*Hepatica nobilis* Schreb.

### COMMON NAMES

- hepatica eng
- Leberblümchen
- Leberblümchen deu

[more](#) >

### TAXONOMIC STATUS

Synonym of [Anemone americana \(DC.\) H. Hara](#)

### ACCORDING TO

The Catalogue of Life, 3rd January 2011

### PUBLISHED IN

Gard. dict. ed. 8: Hepatica no. 1. 1768

### HABITAT

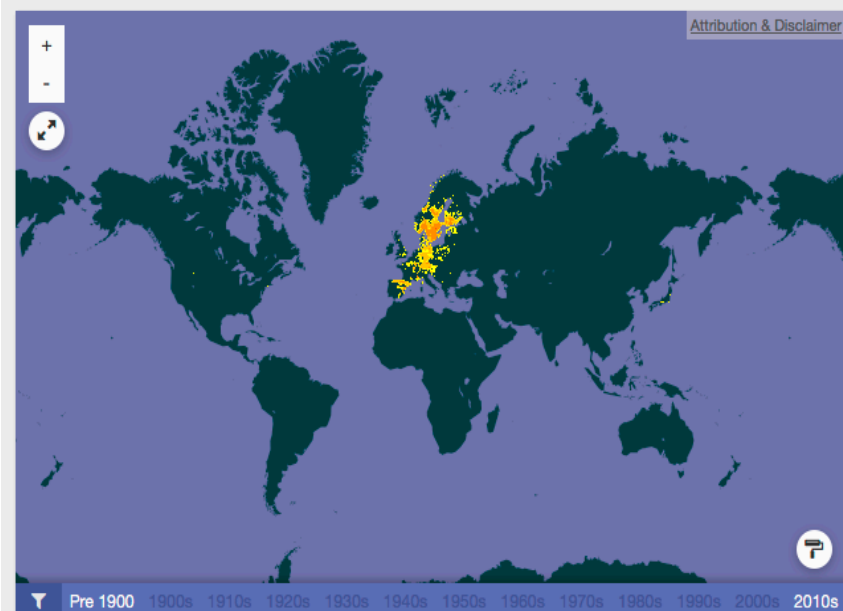
Not marine



GBIF ID [5371699](#)

### SEARCH LINKS

- [Encyclopedia of Life](#)
- [Catalogue of Life](#)
- [Biodiversity Heritage Library](#)



## Georeferenced data

### VIEW RECORDS

[All 51,259](#) | [In viewable area](#)

### DISTRIBUTIONS

Text based [distributions](#) present in some sources.

## Description

### DISTRIBUTION

Europe, Albania, Austria, Bulgaria, Corsica, former Czechoslovakia, Denmark, Finland, France, Germany, Switzerland, Spain, Hungary, Italy, former Yugoslavia, Norway, Poland, Romania, Sweden, N-European Russia, Baltic States, C-European Russia, W-European Russia

Source: [Catalogue of Life](#)

### TABLE OF CONTENTS

[ENG](#), [DEU](#)

· [Distribution](#)



## Leberblümchen (*Hepatica nobilis*)

### IMAGE HOME

[http://commons.wikimedia.org/wiki/File:Hepatica\\_nobilis\\_flowers](http://commons.wikimedia.org/wiki/File:Hepatica_nobilis_flowers)

### PUBLISHER

Wikimedia Commons

### LICENSE

Creative Commons Attribution Share Alike 3.0 Migrated

### SOURCE

Wikipedia Species Pages - German

## Appears in

### OCCURRENCE DATASETS

- [Artdata](#)  
in 28,542 occurrences
- [Norwegian Species Observation Service](#)  
in 7,186 occurrences
- [Herbarium, Botany Unit, Finnish Museum of Natural Hist...](#)  
in 4,982 occurrences
- [FlorKart - FlorenKartierung Gefaesspflanzen](#)  
in 2,063 occurrences
- [Vascular Plants, Field notes, Oslo \(O\)](#)  
in 1,710 occurrences
- [Fundación Biodiversidad, Real Jardín Botánico \(CSIC\): ...](#)  
in 1,240 occurrences

[208 more](#) >

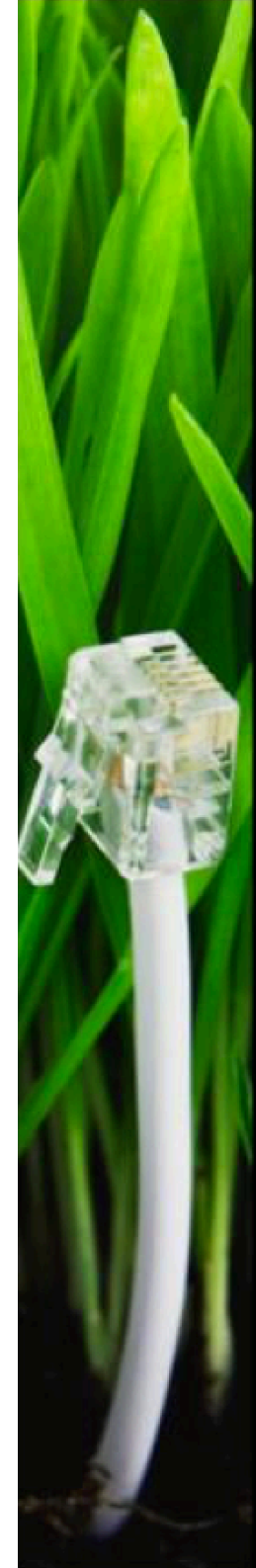
### CHECKLISTS

- [International Plant Names Index](#)  
as *Hepatica nobilis* Schreb.
- [Interim Register of Marine and Nonmarine Genera](#)  
as *Hepatica nobilis* Schreb.
- [TAXREF](#)  
as *Hepatica nobilis* Schreb., 1771
- [Wikipedia Species Pages - German](#)  
as *Hepatica nobilis* (L.) Schreb.
- [The European Nature Information System \(EUNIS\)](#)  
as *Hepatica nobilis* Schreb.
- [Catalogue of Life China, 2013 Annual Checklist\(Biodive...](#)  
as *Hepatica nobilis*

[9 more](#) >

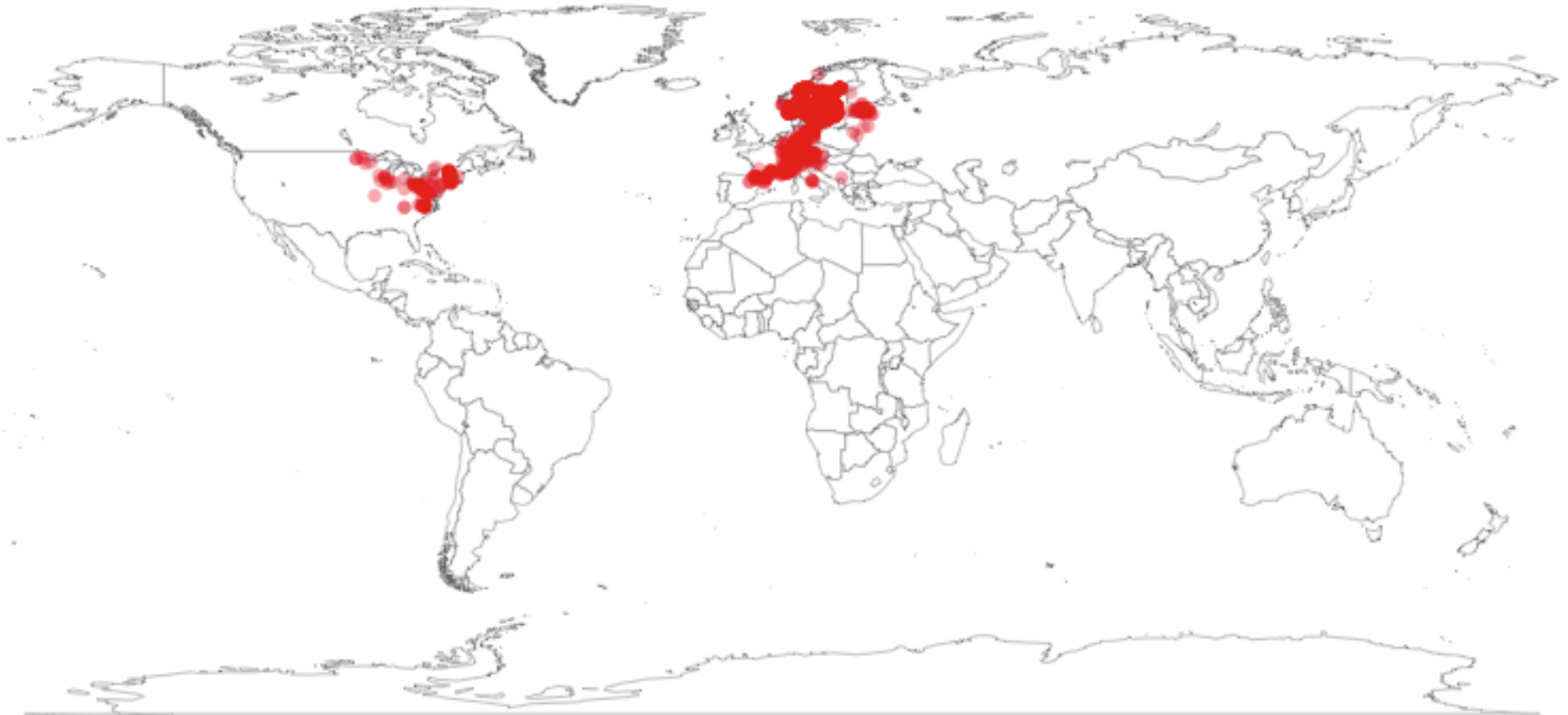
# GBIF DATA PORTAL API

**An interface to access data published through the GBIF network using web services.**

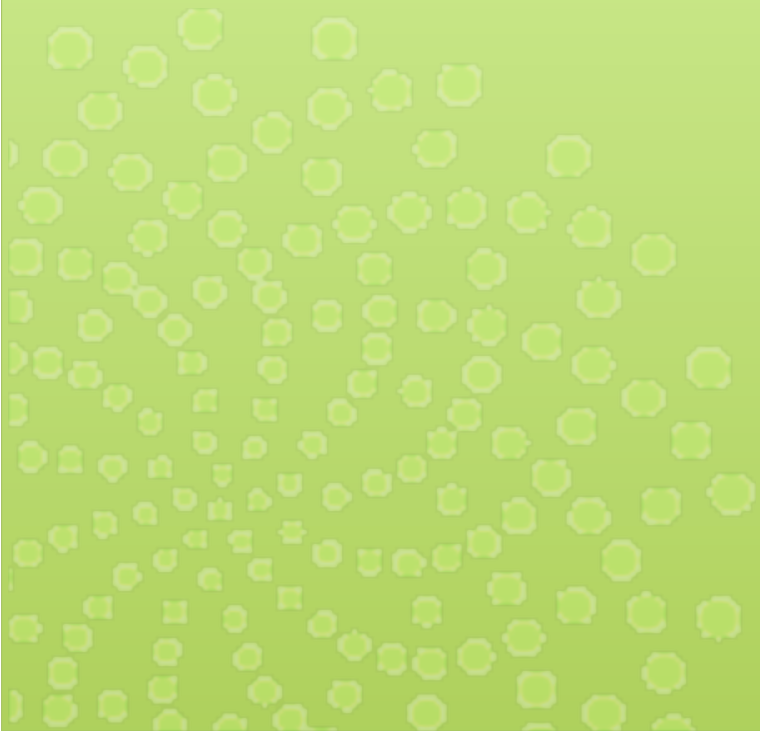


# ROPENSCI : RGBIF

```
library(rgbif)
key <- name_backbone(name='Hepatica nobilis', kingdom='Plantae')$speciesKey
sp <- occ_search(taxonKey=key, return='data', hasCoordinate=TRUE, limit=1000)
gbifmap(sp)
```

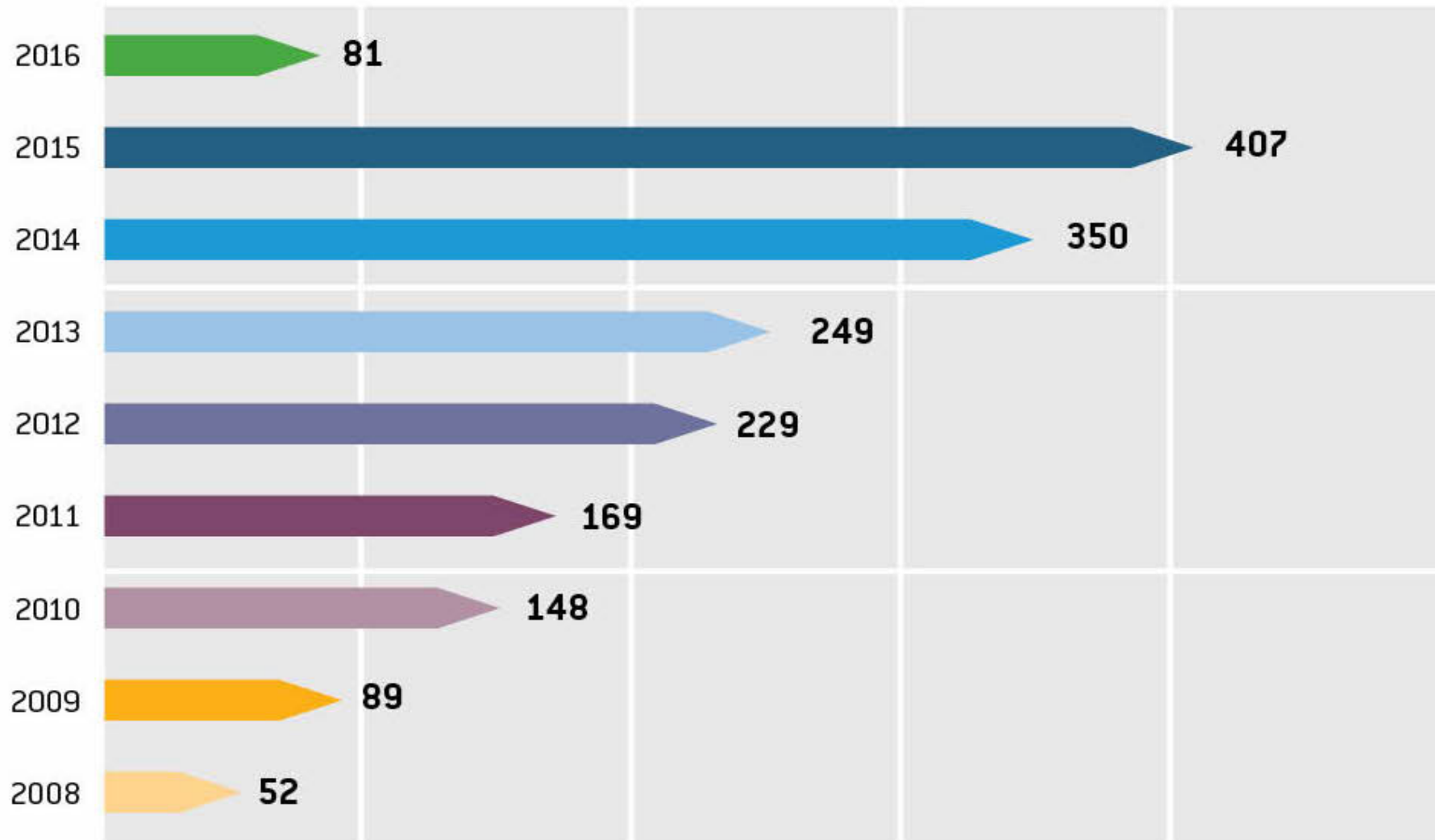


# Data use in research



# CITATIONS IN PEER-REVIEWED RESEARCH

*Annual number of peer-reviewed publications using GBIF-mediated data*



# GBIF Norway



## Node team at NHM, University of Oslo

Dag Endresen, Node Manager

Christian Svindseth, Database manager

Fridtjof Mehlum, Research Director

Einar Timdal, Associate Professor

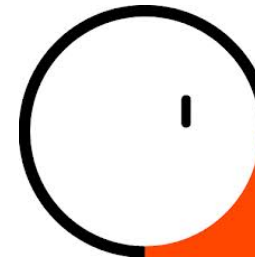
Geir Søli, Associate Professor



## Artsdatabanken, Trondheim

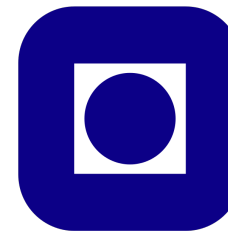
Wouter Koch, Advisor

Nils Valland, Senior advisor



## NTNU University Museum

Anders Finstad, GBIF Science committee



## Research Council of Norway

Per Backe-Hansen, Head of delegation



Contact us at: [gbif-drift@nhm.uio.no](mailto:gbif-drift@nhm.uio.no)