

Bloque 1 – Los herbarios y sus funciones

3. Cooperación y redes. panorama global

Francisco Pando -pando@gbif.es

III Taller GBIF.ES: Conservación, gestión e informatización de herbarios
Real Jardín Botánico-CSIC. Madrid - 10 – 12 de marzo de 2026



MINISTERIO
DE CIENCIA, INNOVACIÓN
Y UNIVERSIDADES

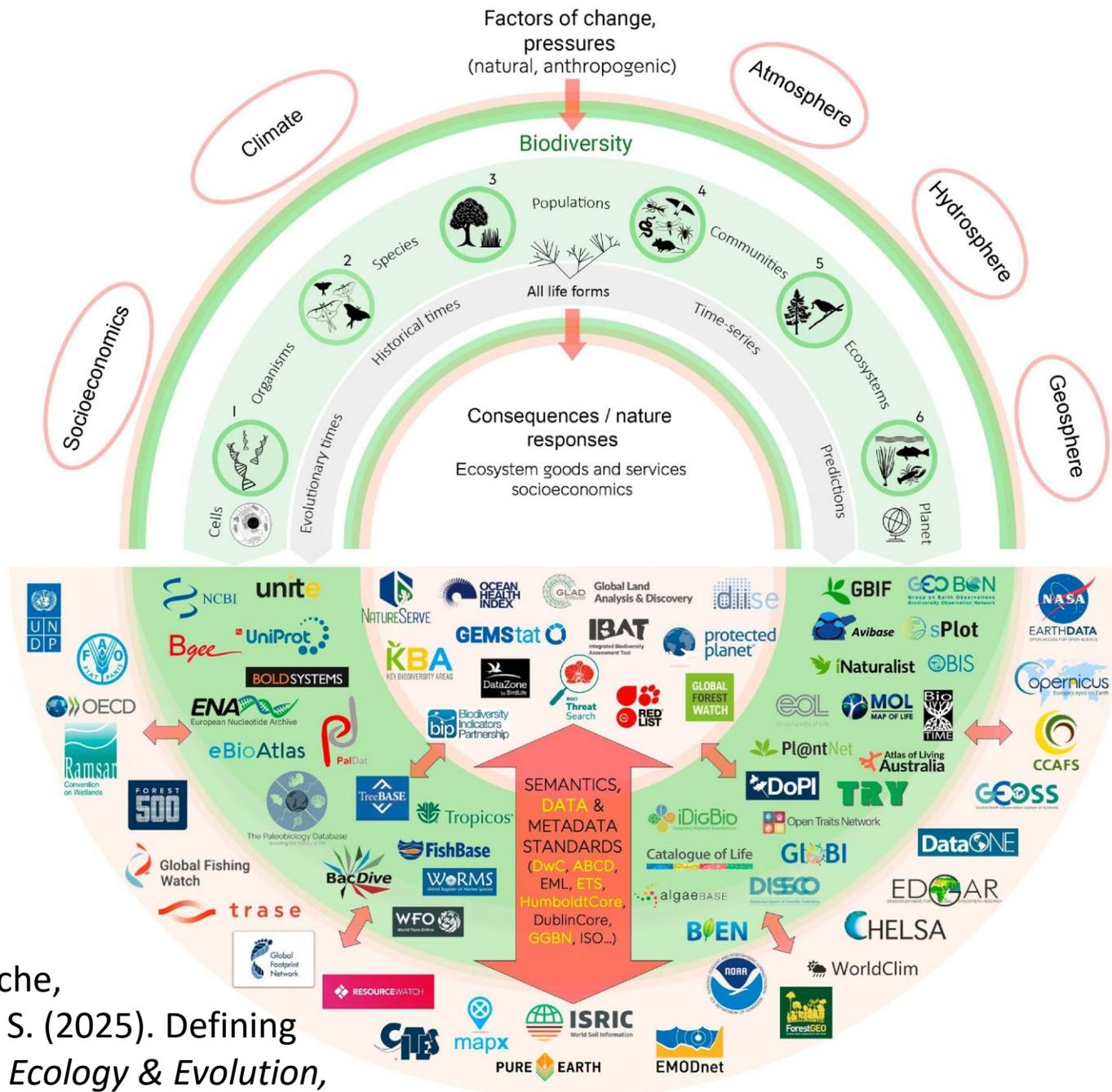


CSIC



REAL JARDÍN
BOTÁNICO





Garnier, E., Pelletier, D., Roche, P., Rougerie, R., & Pavoine, S. (2025). Defining biodiversity data. *Trends in Ecology & Evolution*, 40(8), 731–735. <https://doi.org/10.1016/j.tree.2025.06.004>



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Posted on 6 March 2025

CETAF workshop: Access and Benefit Sharing in 2026



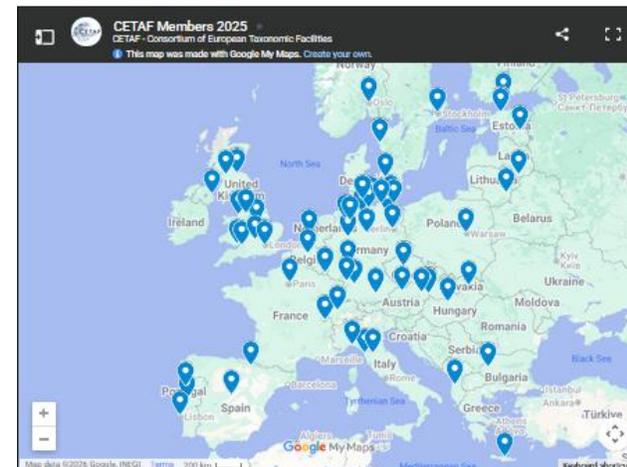
Posted on 3 March 2025

CETAF supports a joint call for stronger EU biodiversity funding



Posted on 25 February 2025

CETAF position on the EU Global Europe instrument under the MFF



Spain

University of Navarra
(Universidad de Navarra)



Address:
Campus Universitario 31009 Pamplona

Official CETAF representative:
Enrique Baquero
e-mail: ebaquero@unav.es

[View on Google Maps](#)

CSIC. Royal Botanic Garden of Madrid

(Real Jardín Botánico de Madrid)



Address:
Plaza de Murillo 2
28014 - Madrid
SPAIN

Official CETAF representative:
Rafael Zardoya
e-mail: direccion2@mncn.csic.es

[View on Google Maps](#)

Other information:
This institute is part of the CETAF member: Spanish Consortium

CSIC. National Museum of Natural Sciences

(Museo Nacional de Ciencias Naturales)



Address:
Calle José Gutiérrez Abascal 2
28006 - Madrid
SPAIN

Official CETAF representative:
Rafael Zardoya
e-mail: direccion2@mncn.csic.es

[View on Google Maps](#)

Other information:
This institute is part of the CETAF member: Spanish Consortium

“CETAF is Europe’s network of biological and geological collections. Collectively, we are the leading European voice for taxonomy and systematic biology”



Best Practices

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CETAF Stable Identifiers

To make the biodiversity data within CETAF's natural history collections retrievable, connected and interoperable, 'stable identifiers' must be determined. The formation of a joint system of identifiers for specimens held by CETAF collections is one of the key targets defined by CETAF's [strategic development plan](#) for 2015-2025. Stable identifiers are globally unique, consistent and reliable identifiers for specimens, used online to redirect users and systems to images, websites and metadata about the physical objects and to integrate them with the semantic web.

The CETAF Information Science and Technology Committee has taken already a significant step to fulfill this target by agreeing on a joint Linked Open Data (LOD) compliant identifier system that **provides mechanisms** for consistently referencing individual specimens and **redirects** to human-readable webpages and machine-readable metadata records.

Stable Identifiers Implementers Group

To date, 14 CETAF institutions have joined the initiative and provide LOD-compliant identifiers for individual specimens. For each of them, the following lists provide an example identifier, a link to a catalogue for searching specimens and their identifiers as well as an indication of whether a redirect to machine-readable metadata has already been implemented.

Natural Science Collections and Access and Benefit Sharing

The genetic resources contained within animals, plants and microorganisms are a key element of the work of CETAF members. We preserve and study this material to understand the nature, structure or development of cells, proteins, membranes and structures of the world's species.

ET EUROPEAN JOURNAL OF TAXONOMY
An Open Access journal for descriptive taxonomy
of living and fossil eukaryotes

<https://mailchi.mp/cetaf.org/epulse-17-feb?e=561c5cb5f1>

Upcoming CETAF events

21 - 22
April 2026

LIB Museum Koenig,
Bonn (Germany)

Access and Benefit Sharing workshop

Workshop: Access and Benefit Sharing in 2026

The **CETAF Legislations and Regulations Working Group** is organising a workshop on the practical implementation of the EU ABS Regulation for non-commercial research and collection-holding institutions.

When: 21-22 April

Where: LIB Museum Koenig, Bonn

Registration by email is required by 10 April 2026.

LIVE WEBINAR

A presentation organized by the
Sci.Reg working group

What Defines a Species in the Molecular Age? Delimitation and Diagnosis with DNA Barcodes Wednesday, 13 May 14:00-16:00 CET

Molecular data are transforming how species are recognized and described, but how should these tools be applied in practice? This seminar explores molecular approaches to species delimitation and diagnosis, their conceptual foundations, and their use in real taxonomic workflows. Will include Q&A.



Alexander Fedosov

NATURHISTORISKA
RIKMUSEET



Nicolas Puillandre
MUSÉUM
NATURAL & HISTORICAL SCIENCES



REGISTER HERE!

Event contact: emily.hartop@ntnu.no

More upcoming events and courses

ICAT Climate Finance Transparency Course

When: Self-paced course
Where: Online

[More info](#)

Self-paced course

ICAT Climate Finance Transparency Course

8 modules

English

Launch of The Nature for Life Hub Learning Journey

When: 2-6 March 2026

Where: Livestream, United Nations Development Programme (UNDP)

[More info](#)



Biodiversity Spring Market

When: 23 March

Where: Institute of Natural Sciences, Brussels

[More info](#)



Museomics 2026 Symposium

When: March 23-24, 2026

Where: Natural History Museum Vienna

[More info](#)



The European Climate Pact annual event 2026

When: 23-25 March

Where: Brussels

[More info](#)



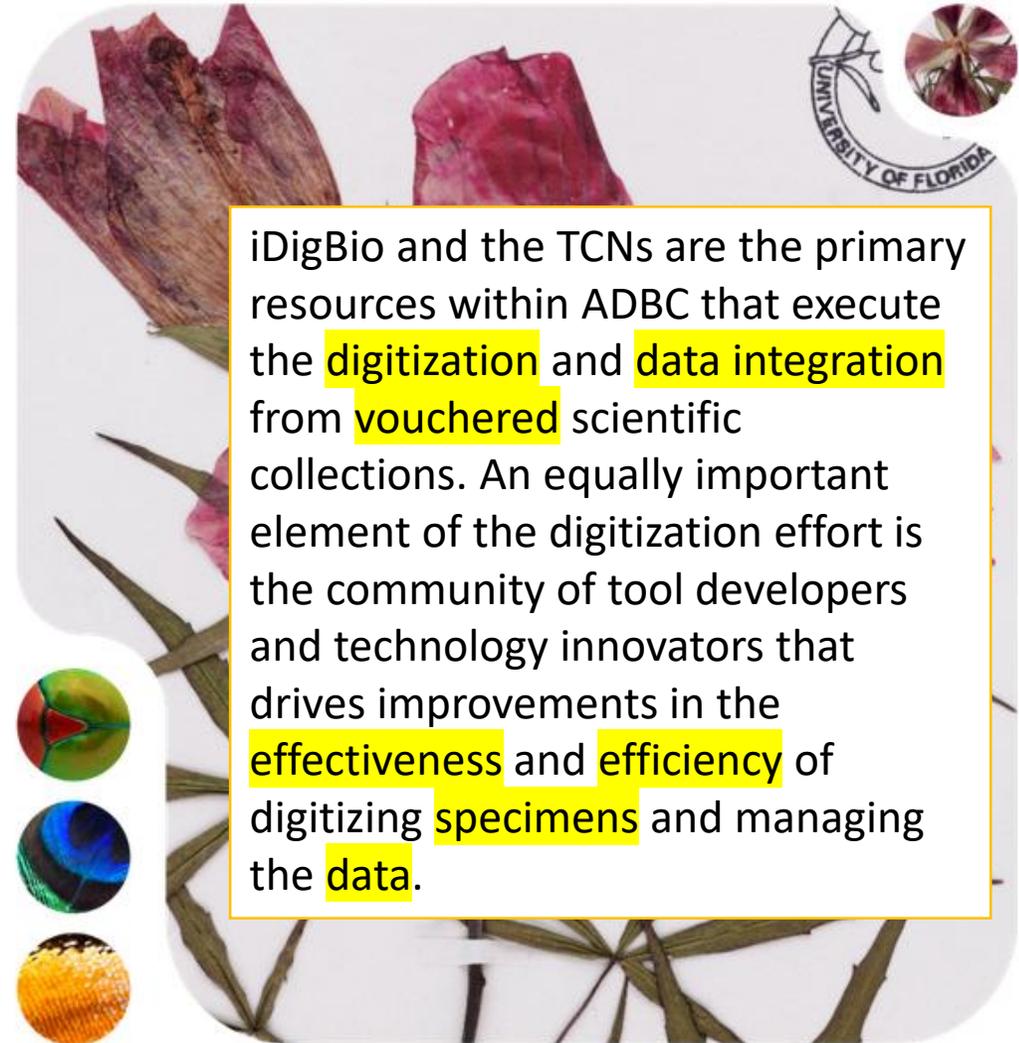
⚠ iDigBio IPT moved to ipt.gbif.us 02/19/2026 (All day) to 12/31/2999 (All day)

Integrated Digitized Biocollections

Making data and images of millions of biological specimens available on the web.

Search the Portal...

or go to [Advanced Search](#)



iDigBio and the TCNs are the primary resources within ADBC that execute the digitization and data integration from vouchered scientific collections. An equally important element of the digitization effort is the community of tool developers and technology innovators that drives improvements in the effectiveness and efficiency of digitizing specimens and managing the data.



Skip to main content

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 [Education](#)

iDigBio's taxonomic normalization currently uses GBIF Backbone version 2023-08-28

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 [Portal Home](#) |
 [Search Records](#) |
 [Learning Center](#) |
 [Data](#) |
 [Research Collaboration](#) |
 [Feedback](#)

Search Records [Help](#) [Reset](#)

search all fields

Must have media Must have map point

Filters | Mapping | Sorting | Download

Add a field [Clear](#)

Scientific Name
 dwc:scientificName
 Present Missing Fuzzy

Date Collected
 Start: End:
 Present Missing

Country
 dwc:country
 Present Missing

Total: 150,317,752

Family	Scientific Name	Date Collected	Country	Institution Code	Basis of Record	Columns
Unplaced	"Almont samara"	no data	United States	UF	FossilSpecimen	view
Unplaced	"Almont samara"	no data	United States	UF	FossilSpecimen	view

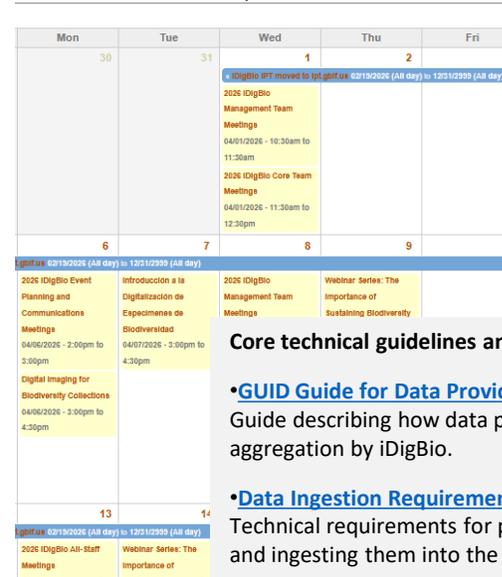


[Like iDigBio on Facebook](#) |
 [Follow iDigBio on Twitter](#)

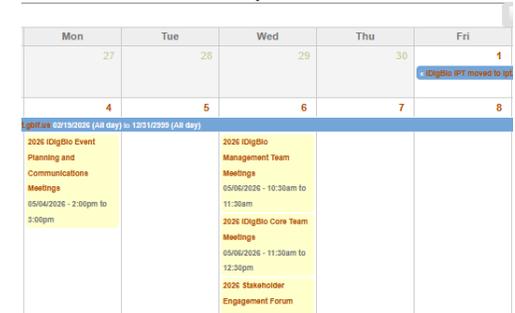
Use of this website is subject to iDigBio's [Terms of Use](#) and [Service Level Agreement](#).

This page uses the [GBIF API](#) • [Google Analytics](#) • [Google Privacy Policy](#)

April 2026



May 2026



Core technical guidelines and documentation

- [GUID Guide for Data Providers](#)

Guide describing how data providers should structure and publish specimen data for aggregation by iDigBio.

- [Data Ingestion Requirements and Guidelines](#)

Technical requirements for publishing datasets (formats such as Darwin Core Archive, CSV, etc.) and ingesting them into the iDigBio infrastructure.

- [Biological Collections Databases, Tools, and Data Publication Portals](#)

Overview of collection management systems and data publication platforms used in biodiversity informatics (e.g., Arctos, Symbiota, BRAHMS, Specify). ([idigbio.org](#))

Digitization workflows and protocols

- [Digitization Workflows](#)

Repository of workflows and protocols for digitizing biological and paleontological collections.

- [Workflow Modules and Task Lists](#)

Structured modules describing tasks in digitization pipelines such as image capture, data capture, and pre-digitization curation. ([idigbio.org](#))

Image and media standards

- [Image File Format Requirements and Recommendations](#)

Technical guidance on image capture, processing, archiving, and distribution of specimen images, including preferred formats and metadata considerations. ([idigbio.org](#))

Cyberinfrastructure and APIs

- [iDigBio API Documentation](#)

Technical documentation for the REST APIs used to retrieve specimen and media data programmatically.

https://www.idigbio.org/content/technical-information?utm_source=chatgpt.com



Biodiversity Information Standards (TDWG)

We are a non-profit organization and a community dedicated to developing biodiversity information standards.

Image by Jennifer Latuperisa-Andresen

Historically known as the Taxonomic Databases Working Group, today's Biodiversity Information Standards (TDWG) is a not-for-profit, scientific and educational association formed to establish international collaboration among the creators, managers and users of biodiversity information and to promote the wider and more effective dissemination and sharing of knowledge about the world's heritage of biological organisms.

To achieve its goals, TDWG:

- Develops, ratifies and promotes standards and guidelines for the recording and exchange of data about organisms
- Acts as a forum for discussing all aspects of biodiversity information management through meetings, online discussions, and publications

<https://www.tdwg.org>

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ABCD

Access to Biological Collection Data (ABCD) Schema

Audiovisual Core

Audiovisual Core Multimedia Resources Metadata Schema

Darwin Core

Darwin Core

GUID Applicability Statements

GUID and Life Sciences Identifiers Applicability Statements

Latimer Core

Latimer Core, a standard for describing collections

SDS

TDWG Standards Documentation Standard (SDS)

TAPIR

TDWG Access Protocol for Information Retrieval (TAPIR)

TCS

Taxon Concept Schema (TCS)

VMS

Vocabulary Maintenance Standard (VMS)

WGSRPD

World Geographical Scheme for Recording Plant Distributions (WGSRPD)

Interest and Task Groups

- MG** Access to Biological Collections Data
- IG** Annotations
- IG** Attribution
 - TG** People in Biodiversity Data
- MG** Audiovisual Core
 - TG** 3D Imagery and Data
 - TG** Views Controlled Vocabularies
- IG** Biodiversity Data Quality
 - TG** Framework on data quality
 - TG** Data quality tests and assertions
 - TG** Data quality use cases
 - TG** Best practices for development of vocabularies of values ("Vocabularies")
- IG** Biodiversity Informatics Curriculum
- IG** Biodiversity Services and Clients
- IG** Biological Interactions Data
- IG** Citizen Science
- IG** Collection Descriptions
 - MG** Latimer Core
 - TG** Minimum Information about a Digital Specimen (MIDS)
 - TG** Modelling Research Expeditions
- MG** Darwin Core
 - TG** Invasive Species
 - TG** Plant Phenology
 - TG** Realm and Biome
 - TG** Sensitive Species Extension
- IG** Earth Sciences and Paleobiology
 - TG** Darwin Core Chronometric Age Extension
 - TG** Extension for Geosciences (EFG)
 - TG** Mineralogy Extension
- IG** Genomic Biodiversity
 - TG** Environmental Samples and eDNA
 - TG** Sustainable DarwinCore MixS Interoperability
- IG** Geographical Schemes
 - TG** Marine Geo Schemes Task Group
 - TG** Terrestrial GeoSchemes TG
- IG** Machine Observations
- IG** Observations & Specimens
 - TG** How Did It Die?
 - TG** Humboldt Extension
 - TG** Material Sample
- IG** Process
- IG** Species Information
 - TG** Invasive Organism Information
 - TG** Plinian Core
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 - TG** Taxonomic Concept Schema (TCSZ) Task Group
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 - TG** Standards Mapping Task Group

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The most complete authoritative list of the world's species - maintained by hundreds of global taxonomists - [Learn more](#)

Animalia

1,590,927 species
in COL



CURRENT VERSION

Issued: 2026-02-13

DOI: [10.48580/dgwnl](https://doi.org/10.48580/dgwnl)



DOCUMENTATION

The Catalogue of Life includes information with different gradients of quality. The base release is verified by taxonomic experts specifically for COL. The eXtended Release includes extra data from other sources (indicated with the [XR](#) icon). Read about the [different releases](#) COL provides.

RECENT NEWS

- A more comprehensive Catalogue of Life now Live!
- Catalogue of Life 2025
- Biodiversity Heritage Library's Call for Support & integration with COL
- COL DOIs & ORCIDs
- Meet the Libroscope
- The first data manager of the Catalogue of Life
- Annual Release 2024
- GBIF to serve as administrative host for Species

Source Extant only Placeholder

- ▶ domain: [Archaea Woese et al., 2024](#) • 765 spp.
- ▶ domain: [Bacteria Woese et al., 2024](#) • 26,009 spp.
- ▼ domain: [Eukaryota \(Chatton, 1925\) Whittaker & Margulis, 1978](#) • 2,468,094 spp.
 - ▶ kingdom: [Animalia](#) • 1,810,294 spp.
 - ▶ kingdom: [Chromista](#) • 72,355 spp.
 - ▶ kingdom: [Fungi](#) • 172,052 spp.
 - ▶ kingdom: [Plantae](#) • 409,115 spp.
 - ▶ kingdom: [Protozoa](#) • 4,275 spp.
 - ▶ kingdom: Not assigned
- ▶ domain: Not assigned

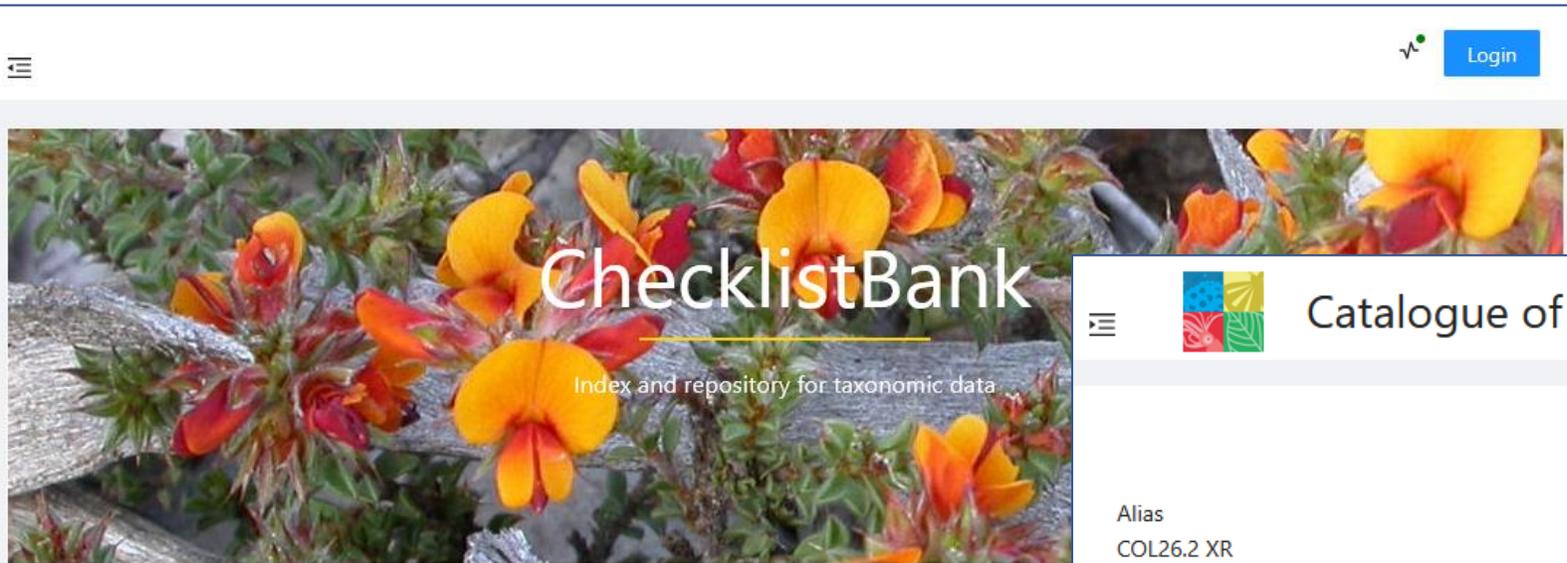
<https://www.catalogueoflife.org>

“The data in current edition of the Catalogue of Life have been provided by 163 databases”

Source database ▲	English name of the group	Living species	Extinct species
3i Cicadellinae: 3i interactive keys and taxonomic databases, subfamily Cicadellinae UPDATED!	 Leafhoppers	2,381	14
3i Cicadoidea: 3i interactive keys and taxonomic databases, superfamily Cicadoidea UPDATED!	 Cicadas	3,079	66
3i Curculio: 3i taxonomic databases, Curculionidae, subfamily Entiminae UPDATED!	 Broad-nosed weevils		
3i Typhlocybinae: 3i interactive keys and taxonomic databases, subfamily Typhlocybinae UPDATED!	 Leafhoppers		
AnnonBase: Annonaceae GSD	 AnnonBase Custard apples		
AphidSF: Aphid Species File UPDATED!	 Aphids and allied		
BdelloideaBase: Bdellid & Cunaxid Databases	 Bdellid and cunaxid		
Brachiopoda Database UPDATED!	 Lamp-shells		
Brassicaceae species checklist and database	 Crucifers, mustard family		
Brentids: Brentidae of the World	 Straight-snouted		
CarabCat: Global database of ground beetles	 Ground beetles		
Catalogue of Life China	 Various taxa from		

CCW: Catalogue of Craneflies of the World	 Craneflies	14,827	0
ChenoBase: Chenopodiaceae GSD	 Goosefoot family		
ChiloBase: A World Catalogue of Centipedes (Chilopoda) for the web	 Centipedes		
ChrysididaeSF: Chrysididae Species File UPDATED!	 Cuckoo wasps or emerald wasps		
CilCat: The World Ciliate Catalog	 M. Landes Museum ZOBODAT Ciliates		
CIPA: Computer Aided Identification of Phlebotomine sandflies of Americas	 Phlebotomine sandflies		
CockroachSF: Cockroach Species File UPDATED!	 Cockroaches		
CoL Management Classification: A Higher Level Classification of All Living Organisms	 Biota		
Conifer Database	 Conifers		
COOL: Cercopoidea Organised On Line	 Froghoppers		
CoreoideaSF: Coreoidea Species File UPDATED!	 Leatherbugs		
DermapteraSF: Dermaptera Species File UPDATED!	 Earwigs		
Dothideomycetes	 Dothideomycetes		

FADA Halacaridae: World checklist of freshwater Halacaridae species	 Aquatic mites	59	0
FADA Nematomorpha: World checklist of freshwater Nematomorpha species	 Freshwater hairworms	356	0
FADA Rotifera: Annotated checklist of the rotifers (Phylum Rotifera)	 Rotifers	2,014	0
FADA Turbellaria: World checklist of freshwater Turbellaria species	 Planarians	1,449	0
Fauna Europaea, subphylum Turbellaria (Platyhelminthes)	 Turbellarians	237	0
FishBase UPDATED!	 Fishes	33,388	0
FLOW: Fulgoromorpha Lists On the WEB	 Planhoppers	12,636	298
Global Gracillariidae: Global Taxonomic Database of Gracillariidae	 Gracillariid moths	1,855	0
GloBIS (GART): Global Butterfly Information System	 Hairstreaks, blues, coppers, swallowtails and whites	8,001	0
Glomeromycota	 Glomeromycota	272	0
GrylloblattodeaSF: Grylloblattodea Species File UPDATED!	 Ice crawlers	33	545
Hexacorals: Hexacorallians of the			

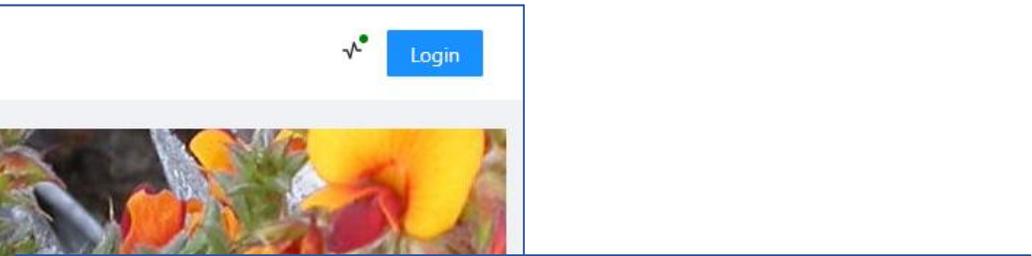


Species in Catalogue of Life	Name Usages in ChecklistBank	Datasets in ChecklistBank
2,242,071	344,621,965	63,441

The [Catalogue of Life](#) (COL) and [GBIF](#) aim to support the publication and curation of checklists and to provide a platform for their consistent discovery, use and citation. GBIF has for some time maintained a checklist index and supported the network of repositories for its community to share checklist data. COL and GBIF have united their capabilities to make ChecklistBank a consistent foundation and repository for all COL datasets and any other openly licensed species lists, including those mobilized and registered through [GBIF](#).

The taxonomic community can publish a checklist to ChecklistBank using [CoIDP](#) or any other [supported format](#).

Regardless of the original data format, ChecklistBank generates a standardised interpretation. All datasets




Catalogue of Life 2026-02-13 XR [Login](#)

X-Release





Alias
COL26.2 XR

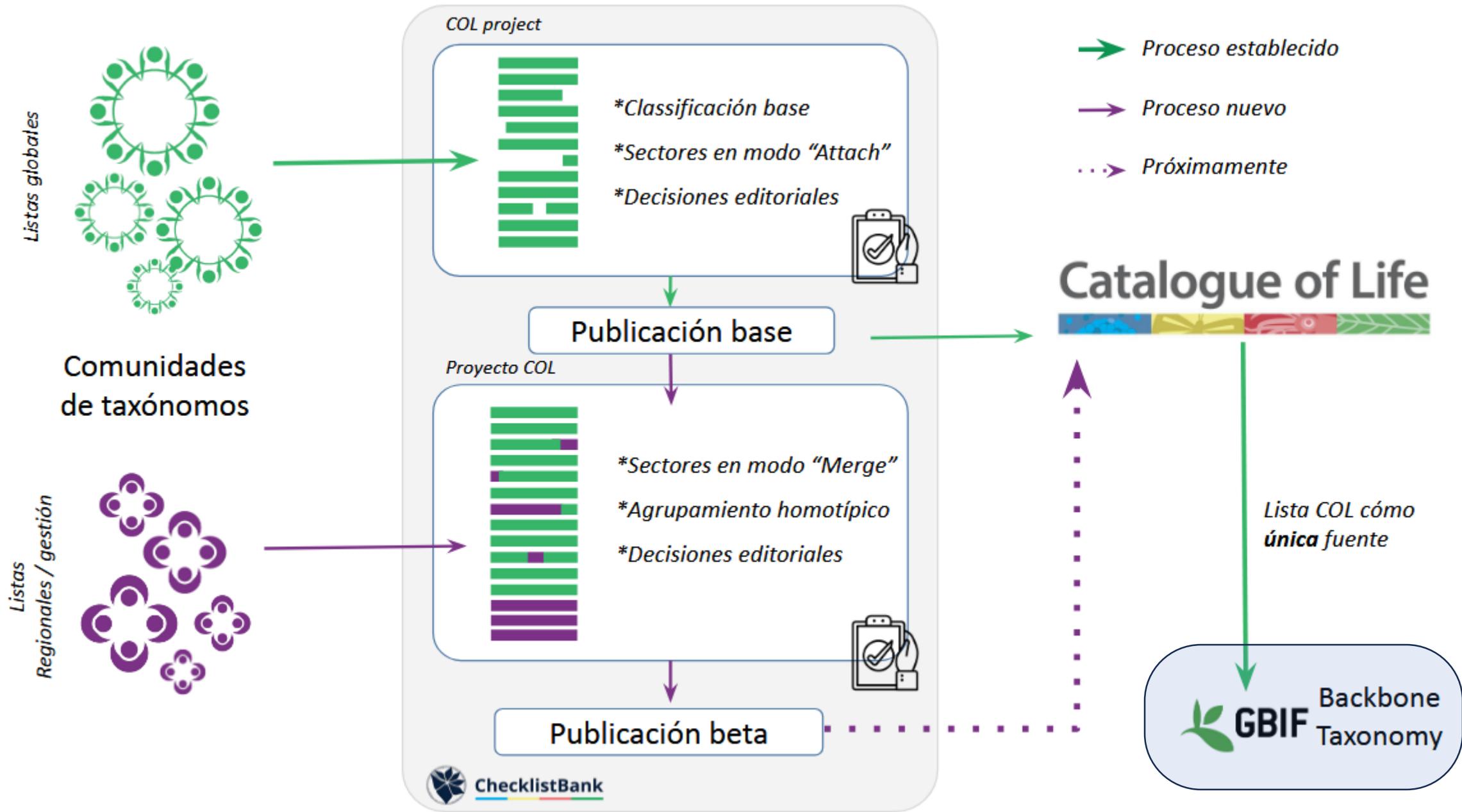
Title
Catalogue of Life

DOI
 [10.48580/dgwnl](https://doi.org/10.48580/dgwnl)

Description

The Catalogue of Life is building a comprehensive catalogue of all known species on Earth. It offers two types of releases that reflect different levels of quality. The Base Release is curated and verified by experts specifically for COL. The eXtended Release (COL XR) builds on the Base Release 2026-02-11 (COL26.2) by programmatically integrating additional data sources. It integrates information from 60664 overlapping taxonomic and nomenclatural global, regional, national and management data sources (checklists) as well as originating from digitised literature available in Catalogue of Life's infrastructure ChecklistBank. New names and other data included in the COL XR are indicated with the XR icon.

This release addresses several gaps of the Base Release and also enriches the existing names with information such as authorships, references, and vernacular names. It also adds molecular data, such as barcode index numbers or operational taxonomic units, to the Catalogue of Life. Higher taxonomy is being added only in selected groups with important gaps. Meanwhile, the information from the global data sources of the Catalogue of Life Base Release remains unmodified.





GBIF La Infraestructura Mundial de Información sobre Biodiversidad y su Nodo Nacional



K. Cazón, M. Almaraz, F. Gómez-Sanz y F. Pando
GBIF España (CSIC), Madrid (España). *Correspondencia: katia@gbif.es

¿Qué es GBIF?

Es la **Infraestructura Mundial de Información sobre Biodiversidad** (GBIF, por sus siglas en inglés), una **red internacional** y una **infraestructura de datos** financiada por gobiernos de todo el mundo, iniciada en 2001 y que ofrece **acceso abierto** y gratuito a datos de **biodiversidad**. En la actualidad, la **red GBIF** reúne a **69 países** y **42 organizaciones internacionales** que comparten más de **110.000 bases de datos** en un marco común basado en los principios FAIR:

- **Findable:** Identificados con DOIs.
- **Accessible:** Almacenados en un portal de acceso libre.
- **Interoperable:** Estructurados bajo estándares comunes como Darwin Core.
- **Reusable:** Publicados con licencias abiertas y metadatos completos.

www.gbif.org

GBIF España

Es el **nodo nacional** de GBIF. Se articula como una **infraestructura distribuida**, de la que forman parte en la actualidad **141 entidades** de todas las **comunidades autónomas del estado** (centros de investigación, universidades, administraciones ambientales, iniciativas de ciencia ciudadana, empresas, etc.) junto con la **Unidad de Coordinación**, la cual se crea en 2003.

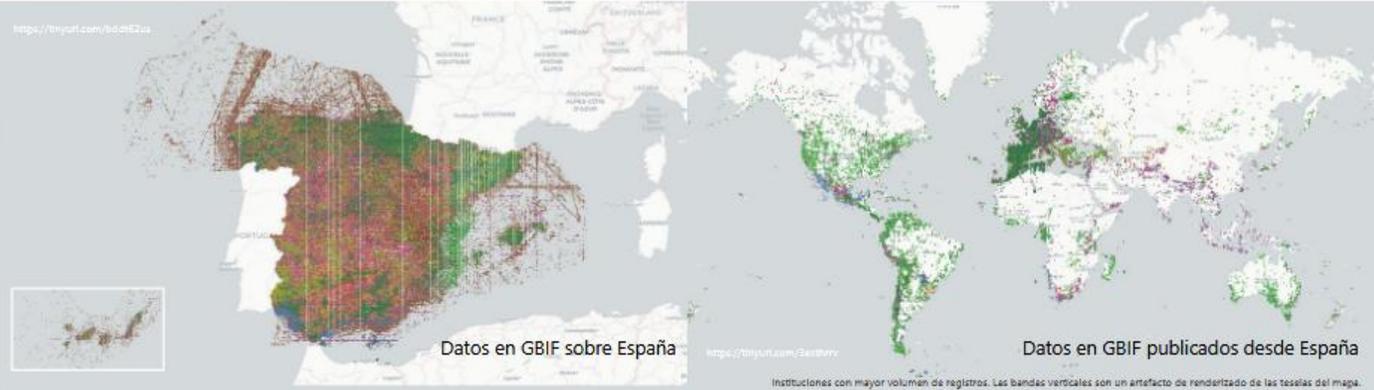
La **misión** de la **Unidad de Coordinación de GBIF ES** es **apoyar a las entidades participantes** para que su información esté **actualizada, estandarizada, validada científicamente y conectada** a la red de datos de GBIF, así como **promocionar y dar formación** en el uso de los datos de biodiversidad.

www.gbif.es

GBIF en cifras

	GBIF España	GBIF Internacional
Registros	75.070.688	3.565.964.275
Instituciones	141	2.494
Juegos de datos	605	118.981
Artículos científicos	2.465	13.810
Descarga de datos (2024)	14.704	347.717

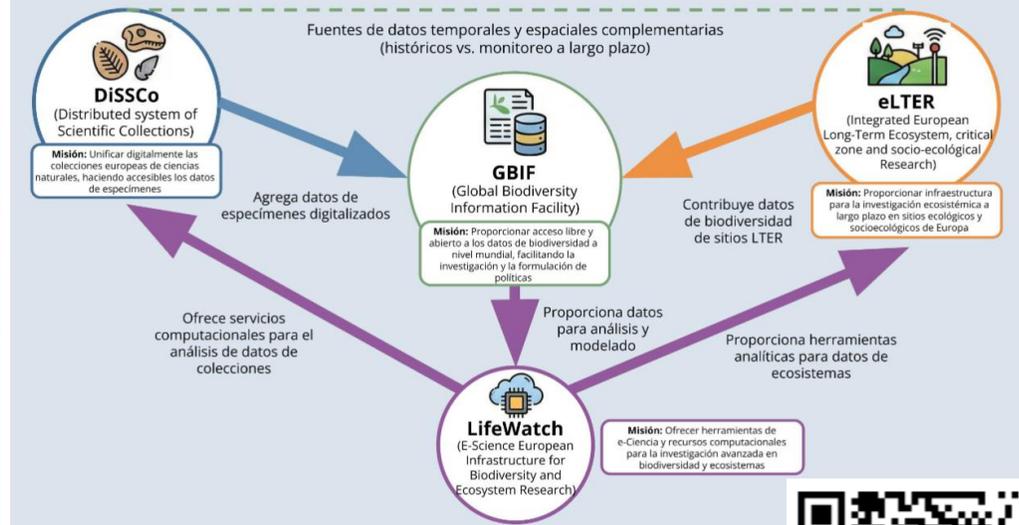
Fuente: Secretariado de GBIF.



Datos de biodiversidad para hacer ciencia y formular políticas

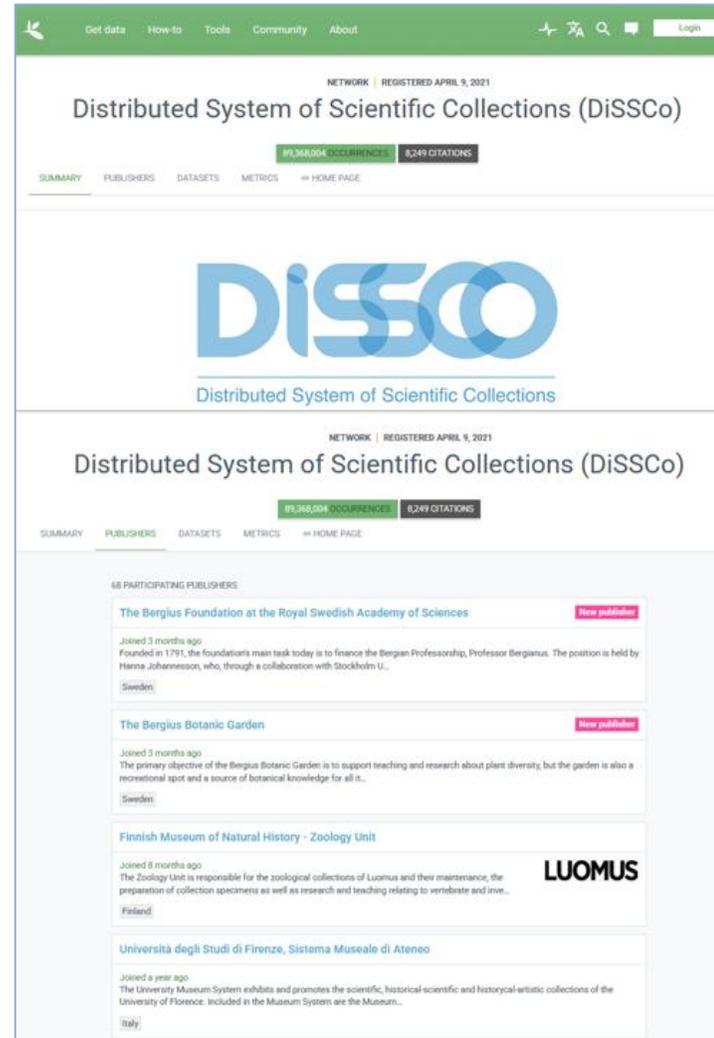


Ecosistema de infraestructuras conectadas



GBIF & DiSSCo

- Ahora:
 - La institución publica primero o directamente en GBIF como dataset (DwC).
 - DiSSCo consume o reutiliza esos mismos datos para crear digital specimens o para el proceso de “DS enrollment”
- En el futuro
 - Colección
 - ▼
 - Digital Specimen (DiSSCo)
 - ▼
 - Derived views / exports
 - ▼
 - GBIF (occurrence records)



<https://www.gbif.org/network/17abcf75-2f1e-46dd-bf75-a5b21dd02655>

GBIF lleva más de 20 años operando el flujo de publicación de colecciones. DiSSCo todavía está construyendo su infraestructura de producción (PID infrastructure, Digital Specimen Architecture).

Join the Future of Scientific Collections

Your specimens hold answers to the planet's most urgent challenges - it is time to make them more discoverable, connected, and impactful than ever before!

Digital Specimen Data Enrollment

Pre-register now

<https://www.dissco.eu/ds-enrollment/>

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CSIC

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<https://creativecommons.org/licenses/by/4.0/deed.es>

GBIF-ES es el Nodo Nacional de Información en Biodiversidad patrocinado por el Ministerio de Ciencia, Innovación y Universidades, gestionado por el Consejo Superior de Investigaciones Científicas (CSIC). <https://www.gbif.es/> <https://datos.gbif.es/>, <https://elearning.gbif.es>



MINISTERIO
DE CIENCIA, INNOVACIÓN
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