GBIF Global Biodiversity Information Facility

Advancing Biodiversity Data Sharing in GBIF

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NBN Conference | Bristol, UK | 20 November 2025

UK, NBN, and GBIF

- GBIF member since 2001
- Voting participant
- Data
  - >243 million species occurrence records
  - 2,371 datasets
  - 209 data publishers
- Node: NBN

https://analytics-files.gbif.org/country/GB/GBIF_CountryReport_GB.pdf

Roadmap to supporting richer biodiversity data types

- Metabarcoding Data Programme
- Biological surveys and monitoring data
- Darwin Core Data Package

Metabarcoding Data Programme (MDP)

- Pilot initiative
- Strengthen links between GBIF network & DNA metabarcoding data communities
- Empowers GBIF nodes to support and mobilize DNA metabarcoding data within their own networks
- Metabarcoding Data Toolkit (MDT)

gbif.org/metabarcoding

Metabarcoding Data Toolkit (MDT)

- Currently only available to GBIF nodes
- Simplifies publication of DNA metabarcoding data
- Provides a standardized approach for formatting and publishing metabarcoding data
- Installation & resources: https://mdt.gbif-test.org/

Collage by Javier Gamboa. GBIF secretariat, 2025.

Installations: NBN GBIF Metabarcoding Data • NBN Atlas

Administrative contact: Lisa Chilton

Biological surveys and monitoring (SAM) data

- Humboldt extension
  - Structured capture of survey context
  - https://eco.tdwg.org/
- Shift towards an event-centric infrastructure that effectively supports SAM data mobilization, discovery, and sharing
- Infrastructure exploration and development underway!

Schema Naturae 2 by Javier Gamboa. GBIF secretariat, 2025.
flic.kr/p/2rkXuXh

Biological surveys and monitoring (SAM) data

Resources to support nodes and data publishers

- Guides, publishing templates
- Update of existing training materials; creation of new resources
- SAM data dialogue – listserv, network discussions
- Thematic hub: https://www.gbif.org/sam

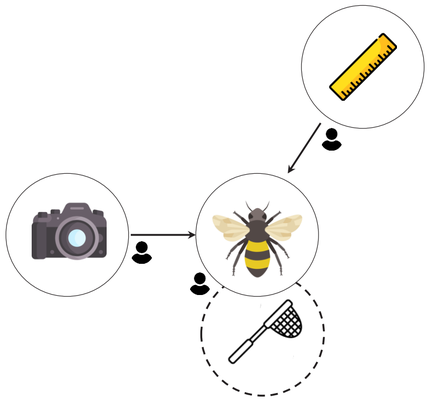
Tabula Composita by Javier Gamboa. GBIF secretariat, 2025.
flic.kr/p/2roKDC2

New data model: Darwin Core Data Package (DwC-DP)

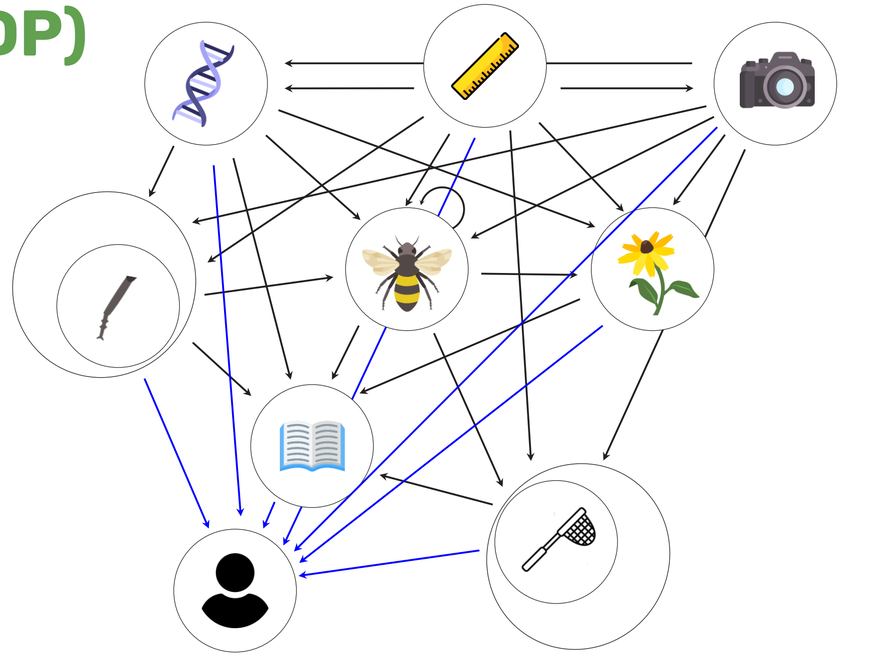
- Next evolution of Darwin Core
- Captures the true complexity and dynamism of biological survey and monitoring data
- *https://gbif.github.io/dwc-dp/*

Ratio Nova by Javier Gamboa. GBIF secretariat, 2025.
flic.kr/p/2rneYYT

DwC Archive (DwC-A)



DwC Data Package (DwC-DP)



Guide	Darwin Core Text Guide	Darwin Core Data Package Guide
Data structure	Limited: “Star schema”, with a “Core” file and optional “Extensions”. Relationships only from Extensions to the Core. Flattened, “spreadsheet-like” Defined in: meta.xml	Relational: No “Core”, no “Extensions”, just tables. Multiple relationships between tables, details in the table definitions. Relational, “database-like” Defined in: datapackage.json
Data type	Cores: Event, Occurrence, Taxon Extensions: Chronometric Age, DNA, Identification, Identifier, Literature Reference, Media, MeasurementsOrFact, Survey	Agent, Assertion, Bibliographic Resource, Chronometric Age, Event, Geological Context, Identification, Identifier, Material, Media, Molecular Protocol, Nucleotide Analysis, Nucleotide Sequence, Occurrence, Organism, Organism Interaction, Protocol, Provenance, Survey, Survey Target, Usage Policy
Semantics	No explicit semantics	Darwin Core Conceptual Model
Metadata	eml.xml	eml.xml
Format	CSV, TSV	CSV, TSV

Darwin Core Data Package (DwC-DP)

Biodiversity Information Standards TDWG

Community review now open!

https://gbif.github.io/dwc-dp/

Community help desk: https://gbif.link/DwC-DP-HelpDesk

- 20 November 2025 @ 1900 GMT
- 1 December 2025 @ 1300 GMT
- 8 December 2025 @ 1300 GMT

Thank you!

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Schema Naturae 1 by Javier Gamboa, GBIF secretariat. 2025.
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