



GBIF

Global Biodiversity
Information Facility



Global Biodiversity Information Facility

Linking evidence of biodiversity patterns

Donald Hobern, GBIF Executive Secretary

Zizina labradus (Godart, 1824), Aranda, ACT, 30 December 2008

GBIF: ORIGINS AND PRINCIPLES

Established in 2001

Response to OECD recommendation

Open to all countries

Voluntary memorandum of understanding (MoU)



Vision - a world in which:

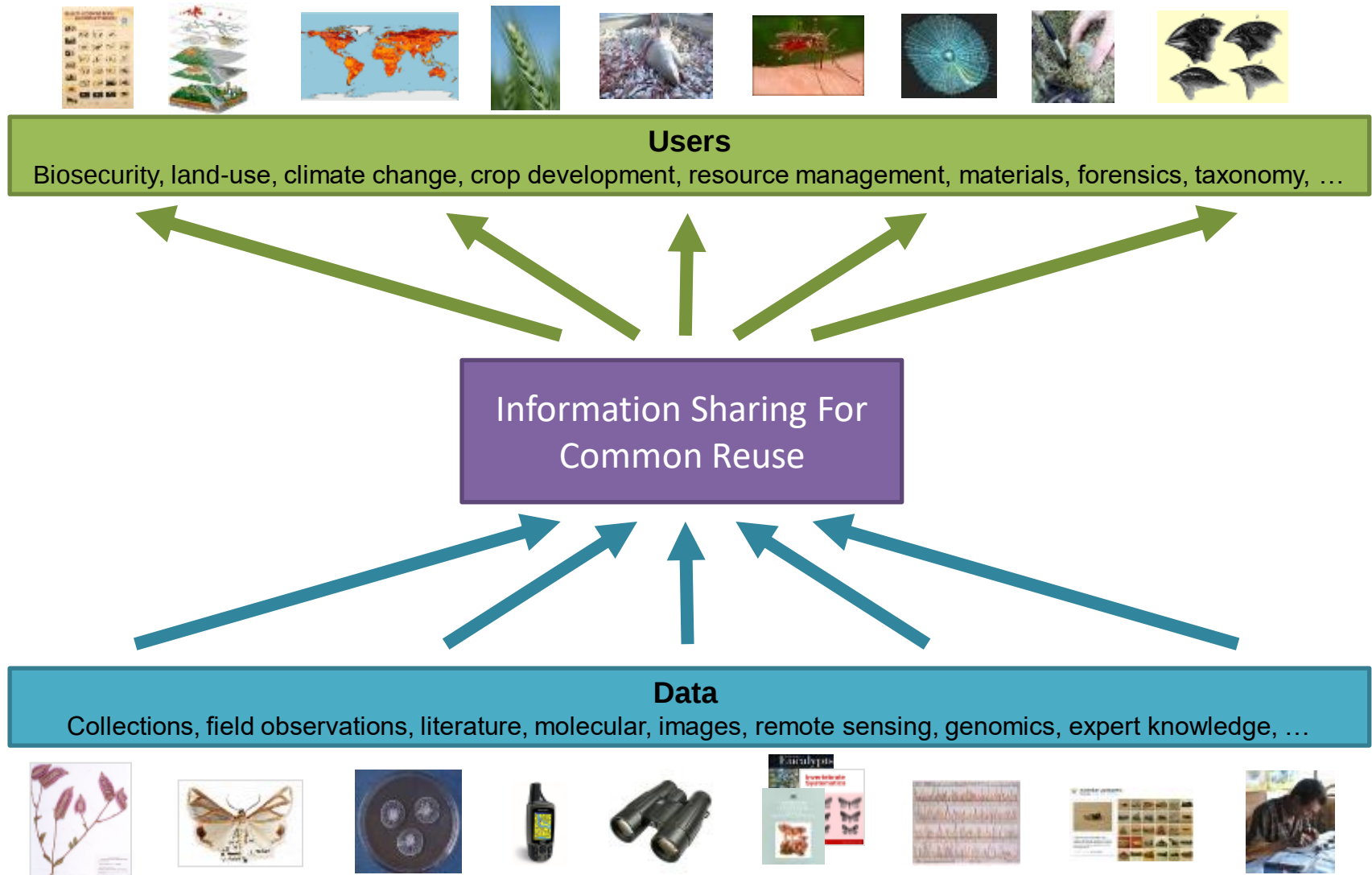
**Biodiversity information is
freely and universally
available for science,
society and a sustainable
future**



CURRENT NETWORK

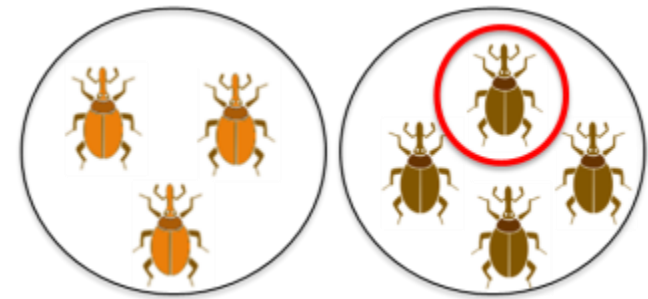
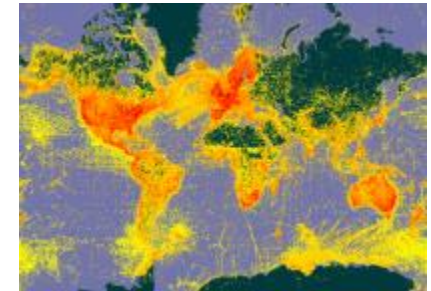
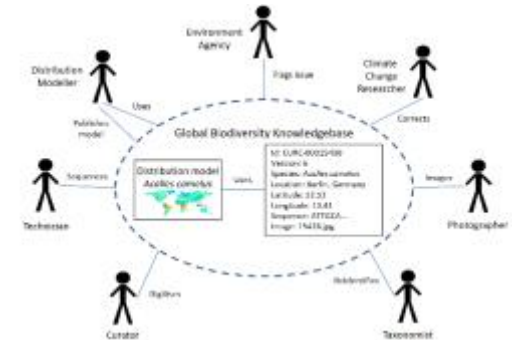


BIODIVERSITY DATA AND USERS



GBIF'S ROLE

1. Remove obstacles to collaboration in sharing and use of biodiversity data
2. Organise evidence of recorded occurrence of any species in time and space
3. Support development of a global virtual natural history collection



DATA PUBLISHING: 1 - METADATA-ONLY

Metadata

FULL TITLE

Natural History Museum of Denmark Amphibia Collection

DESCRIPTION

Amphibian specimens collected in Denmark since 1814. All specimens are preserved at the Natural History Museum of Denmark in Copenhagen. These materials are open to visiting researchers but are not yet databased.

RESOURCE TYPE

Metadata

CONTACT

Email: snm@snm.ku.dk

GEOGRAPHIC SCOPE

Denmark (DK)

TAXONOMIC SCOPE

Class: Amphibia

Data

N/A

DATA PUBLISHING: 2 - CHECKLIST

Metadata

FULL TITLE

Checklist of the frogs of Denmark

DESCRIPTION

Species checklist of frog species recorded in Denmark to December 2015.

RESOURCE TYPE

Checklist

CONTACT

Email: frogs_dk@gmail.com

GEOGRAPHIC SCOPE

Denmark (DK)

TAXONOMIC SCOPE

Order: Anura



Checklist Data

Classification	Species	Status in DK
Ranidae	<i>Rana arvalis</i>	Native
Ranidae	<i>Rana dalmatina</i>	Native
Ranidae	<i>Rana temporaria</i>	Native
Ranidae	<i>Pelophylax ridibundus</i>	Native
Hylidae	<i>Hyla arborea</i>	Introduced
...	...	...

DATA PUBLISHING: 3 – OCCURRENCE DATA

Metadata

FULL TITLE

Natural History Museum of Denmark Amphibia Collection

DESCRIPTION

Amphibian specimens collected in Denmark since 1814. All specimens are preserved at the Natural History Museum of Denmark in Copenhagen. These materials are open to visiting researchers but are not yet databased.

RESOURCE TYPE

Occurrence

CONTACT

Email: snm@snm.ku.dk

GEOGRAPHIC SCOPE

Denmark (DK)

TAXONOMIC SCOPE

Class: Amphibia



Occurrence Data

Classification	Species	Locality	Coordinates	Date
Ranidae	Rana arvalis	Utterslev	55.717N 12.517E	10 July 1964
Ranidae	Rana arvalis	Bagsvaerd	55.767N 12.467E	17August 1964
Ranidae	Rana temporaria	Bagsvaerd	55.767N 12.467E	12 May 1972
Ranidae	Rana temporaria	Aarhus	56.150N 10.217E	17 May 1972
Ranidae	Rana arvalis	Utterslev	55.717N 12.517E	25 June 1972
Ranidae	Rana temporaria	Odense	55.400N 10.383E	5 May 1978
Ranidae	Rana arvalis	Utterslev	55.717N 12.517E	16 August 1979
Ranidae	Rana temporaria	Utterslev	55.717N 12.517E	16 August 1979
...	...	...	...	...

DATA PUBLISHING: 4 – SAMPLE EVENT DATA

Metadata

FULL TITLE

University of Copenhagen Frog Survey

DESCRIPTION

Counts of calling frogs along a 500m transect following protocol defined at

<http://www.snm.ku.dk/FrogSurveyGuidelines.pdf>

RESOURCE TYPE

Sample event

CONTACT

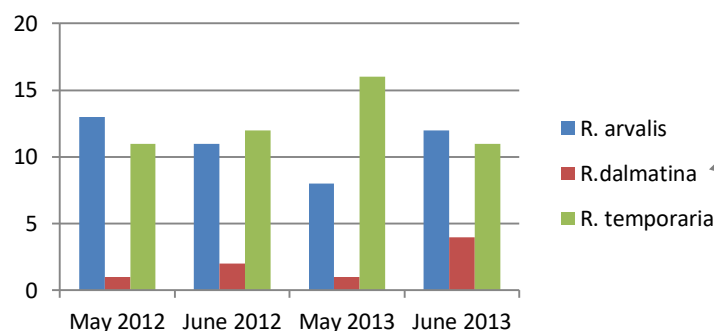
Email: snm@snm.ku.dk

GEOGRAPHIC SCOPE

Denmark (DK)

TAXONOMIC SCOPE

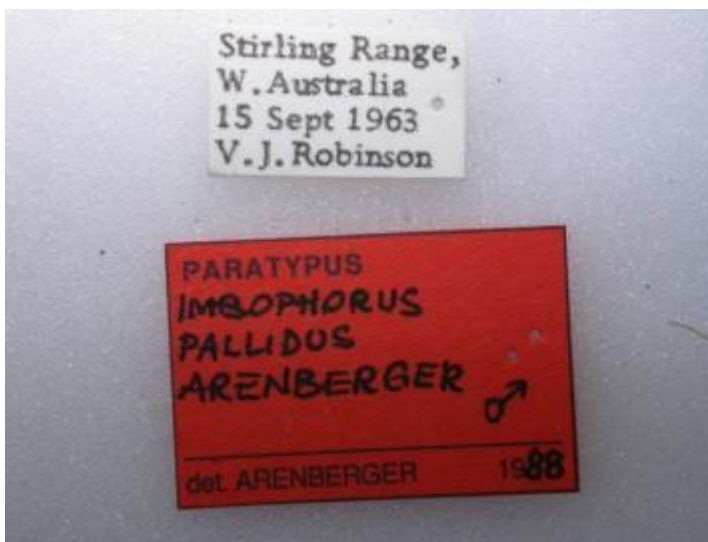
Class: Anura



Sample Event Data

Classification	Species	Locality	Coordinates	Date	Sample Event	Protocol	Measure
Ranidae	Rana arvalis	Utterslev	55.717N 12.517E	10 May 2012	FCS-UTT-2012-1	Frog call survey	5 calling
Ranidae	Rana temporaria	Utterslev	55.717N 12.517E	10 May 2012	FCS-UTT-2012-1	Frog call survey	8 calling
Ranidae	Rana dalmatina	Bagsvaerd	55.767N 12.467E	12 May 2012	FCS-BAG-2012-1	Frog call survey	1 calling
Ranidae	Rana temporaria	Bagsvaerd	55.767N 12.467E	12 May 2012	FCS-BAG-2012-1	Frog call survey	11 calling
Ranidae	Rana arvalis	Bagsvaerd	55.767N 12.467E	12 May 2012	FCS-BAG-2012-1	Frog call survey	13 calling
Ranidae	Rana temporaria	Utterslev	55.717N 12.517E	20 June 2012	FCS-UTT-2012-1	Frog call survey	3 calling
Ranidae	Rana arvalis	Utterslev	55.717N 12.517E	20 June 2012	FCS-UTT-2012-1	Frog call survey	9 calling
Ranidae	Rana temporaria	Bagsvaerd	55.767N 12.467E	23 June 2012	FCS-BAG-2012-1	Frog call survey	12 calling
...	...	...	...	...	...	...	...

SPECIES DATA – MUSEUM SPECIMENS



ScientificName:	<i>Imbophorus pallidus</i>
Family:	Pterophoridae
Locality:	Stirling Range
Country:	Australia
State:	WA
Latitude:	-34.3
Longitude:	118.0
CoordinatePrecision:	10000m
CoordinateMethod:	Google Earth
DateCollected:	1963-09-15
BasisOfRecord:	Preserved specimen
TypeStatus:	Paratype

What species?

Where was it found?

When was it found?

What is the evidence?

Other information

- Specimen data
- Sampling event information
- Sequences, images, etc.

SPECIES DATA – CITIZEN SCIENCE

iNaturalist.org Observations ▾ Species ▾ Projects ▾ Places Guides People 0 3 dhobern ▾

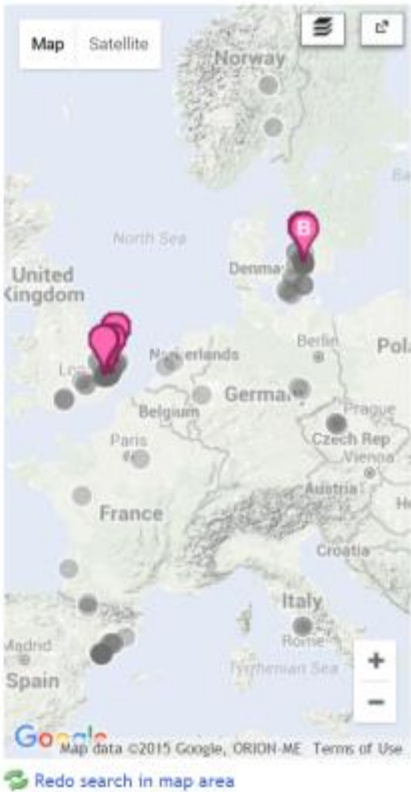
Your observations

Home Observations Calendar Favorites Lists Journal ID's Projects Profile

[Add observations](#) [Batch edit](#) [Search](#)

Photos / Sounds	Species / Taxon Name	Date observed	Place	Date added	
 2 photos »	Morning-glory Plume Moth <i>Emmelina monodactyla</i>	September 26, 2015 08:34 PM CEST	Copenhagen, Hovedstaden, Denmark (Google, OSM)	October 05, 2015 08:26 PM CEST	1 ID Research Grade Edit View »
 2 photos »	Horse-chestnut Leafminer <i>Cameraria ohridella</i>	September 12, 2015 11:17 PM CEST	Frederiksberg, Hovedstaden, Denmark (Google, OSM)	October 05, 2015 08:25 PM CEST	Needs ID Edit View »
	Beautiful Plume Moth <i>Amblyptilia acanthadactyla</i>	September 19, 2015 06:01 PM CEST	55.7221..., 12.5027... (Google, OSM)	September 19, 2015 06:23 PM CEST	1 ID Research Grade Edit View »
 3 photos »	Acleris emargana	September 6, 2015 09:12 PM CEST	Copenhagen, Hovedstaden, Denmark (Google, OSM)	September 11, 2015 09:44 PM CEST	Needs ID Edit View »
	Silver Y <i>Autographa gamma</i>	September 6, 2015	Copenhagen, Hovedstaden, Denmark (Google, OSM)	September 11, 2015 09:43 PM CEST	2 ID's Research Grade Edit View »

Map Satellite



Google Map data ©2015 Google, ORION-ME Terms of Use

[Redo search in map area](#)

SPECIES DATA – LITERATURE

Natural history of Victoria. Prodromus of the zoology of Victoria; or, Figures and descriptions of...

Decade 16-20

Download Contents



Pages Table of Contents

Illustration
Page 239 (Text)
Page 240 (Text)
Blank
Illustration
Page 241 (Text)
Page 242 (Text)
Page 243 (Text)
Blank
Blank
Illustration

Show More

URL for Current Page

<http://biodiversitylibrary.org/page/5219263>

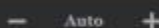
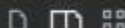
View Current Page in Flickr

Scientific Names on this Page

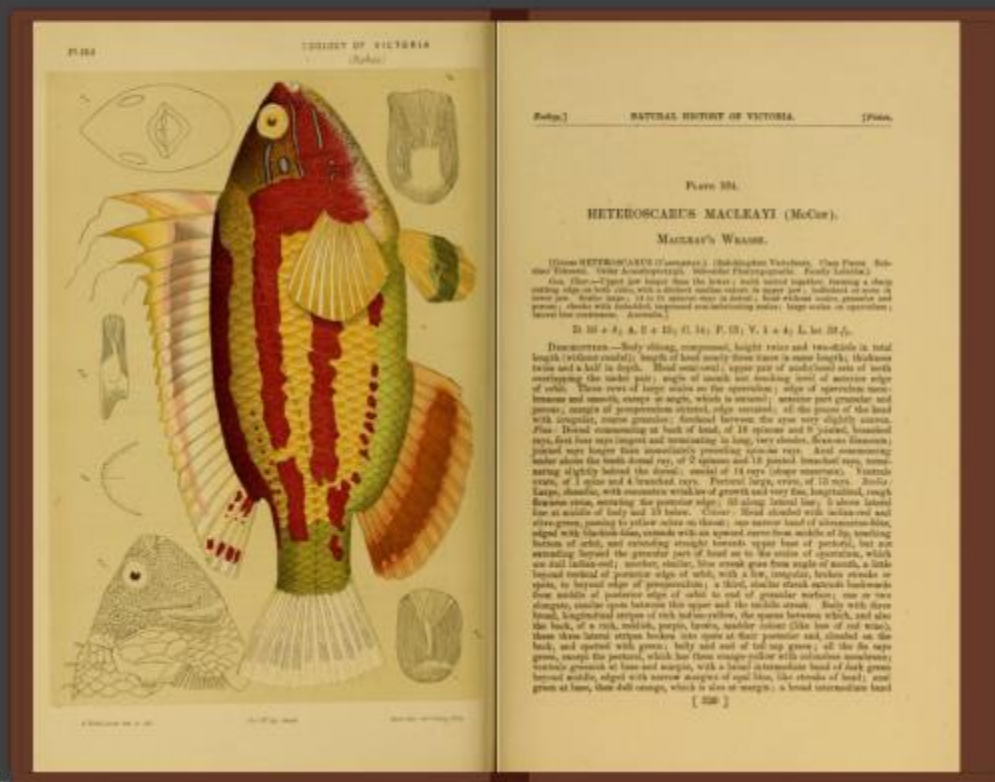
Illustration

No Scientific Names found

Indexed by Global Names



Show
OCR



Contributed by MBL/WHOI Library

SPECIES DATA – NOTEBOOKS

PMS LABORATORY FORM

Species *Sylvia melanocephala* number 5-26

Date: processed 5 Jan. 1968 collected _____

Locality Maagan Mikhael, Israel

Sex ♀ (dissection) plumage soft parts very granular

Age oss (skull) plumage soft parts _____

Weight _____ Fat M Molt _____

Disposition: (skin) skeleton alcoholic discard) Preparator M. L. Petersen

Ectoparasite Exam: Visual ✓ Other _____

Ectoparasites None

Ectoparasite Virus Report _____

Blood Sample: Single _____ Pool _____

Plasma Analysis Tests: VI _____ HI _____ N _____

Plasma Virus Report: VI: Negative _____ Positive _____ Virus _____

HI _____

HI _____

HI _____

N: _____

Blood Smear _____ stain(s) _____

Blood Smear Results _____

Remarks Eye ring red-orange; iris brown; tarsus and feet light brownish-yellow, slightly pinkish



SPECIES DATA – ANIMAL TRACKING



SPECIES DATA - DNA

GLOBAL MALAISE PROGRAM

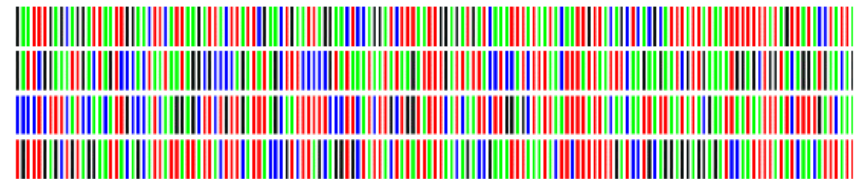
 We're collecting Arthropods below!
Arthropods are small invertebrate animals that have an exoskeleton and a segmented body. Primarily, we are collecting insects and arachnids (spiders).

The Daintree Discovery Centre is one of over 22 global participants, contributing to the "International Barcode of Life Project", run by the Biodiversity Institute of Ontario (BIO), Canada.

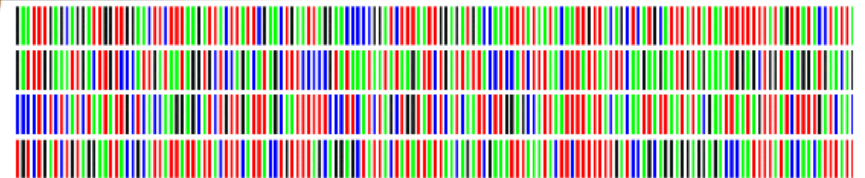
The Project involves the detailed cataloging of individual arthropods collected from a diverse range of eco-systems, from all over the globe. The genetic analysis of tissue samples taken from the arthropods will help to identify changes in the species composition in response to environmental disturbances or global climate change.

The specimens are collected in the specially designed Malaise trap, where the arthropods are directed into a preservation jar, filled with 95% ethanol. The jars are emptied by our staff and the samples sent to BIO in Canada.

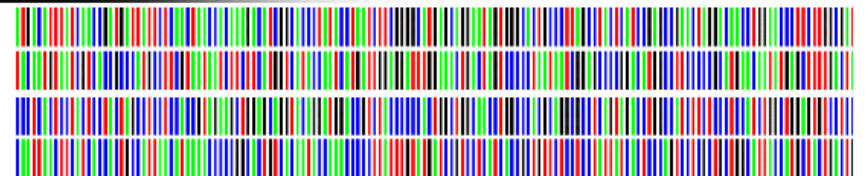
Once there, each of the specimens are assigned a unique Barcode and Index Number (BIN).



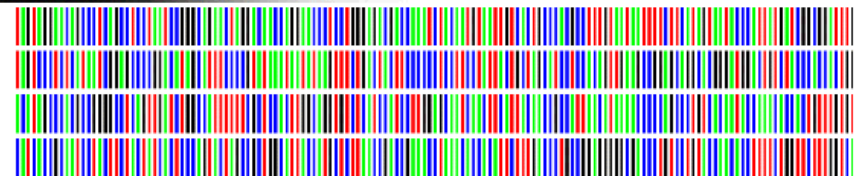
Astraptes fulgerator CELT



Astraptes fulgerator TRIGO

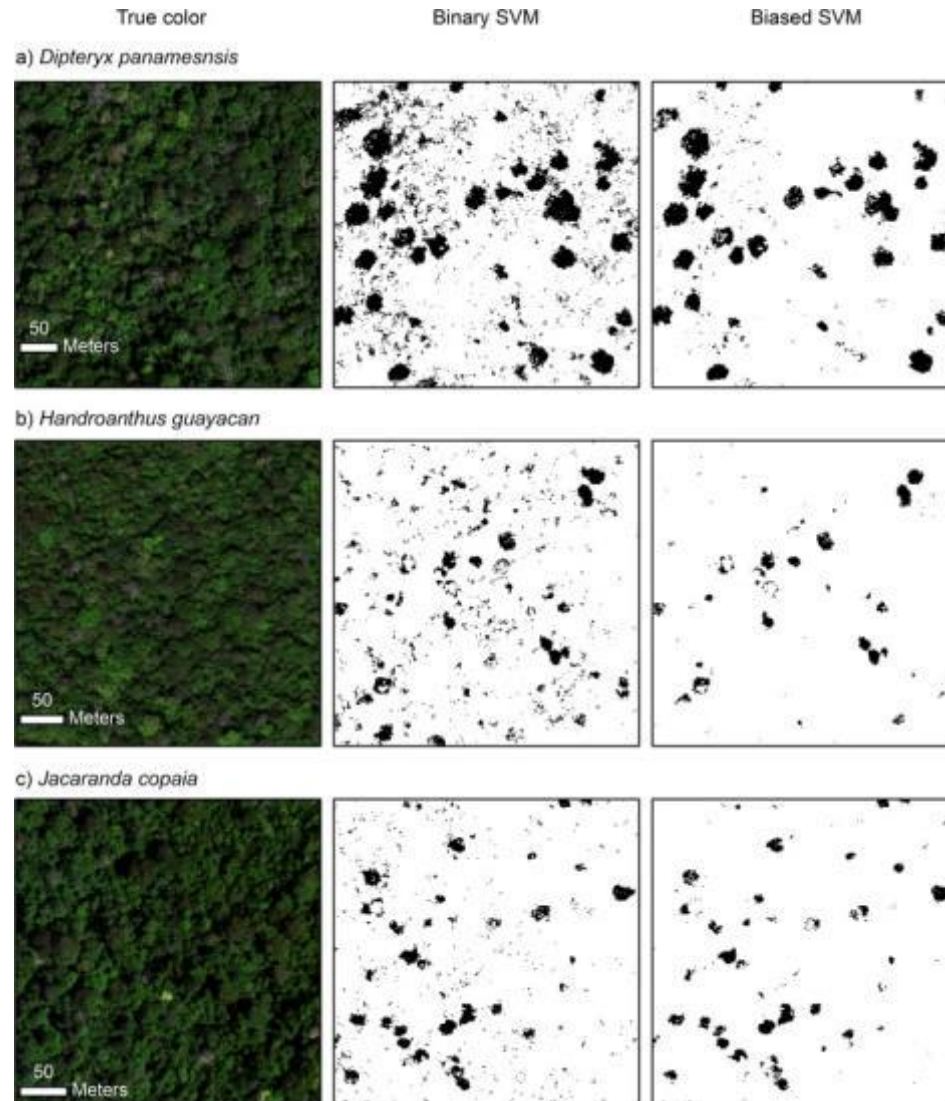


Bubo virginianus



Tyto alba

SPECIES DATA – REMOTE SENSING





BY THE NUMBERS

24 Nov 2017

Species occurrence records

875,742,293

Datasets

37,249

*Country
Participants*

54

*Organizational
Participants*

36

Publishers

1,130

*Records downloaded per month (avg
2017)*

35.7 billion

Unique users per month (Apr 2017)

106,438



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GBIF | Global Biodiversity Information Facility

Free and open access to biodiversity data

OCCURRENCES SPECIES DATASETS PUBLISHERS RESOURCES

Search



WHAT IS GBIF?

Occurrence records
838,334,297

Datasets
36,141

Publishers
1,068

Species

Learn more about the number of species covered by data in GBIF.org.



Job opportunities for software developers

14 September 2017



Using social media to complement traditional sources of biodiversity data

12 September 2017



Introduction to sampling-event data

What is sampling-event data and why is it important?

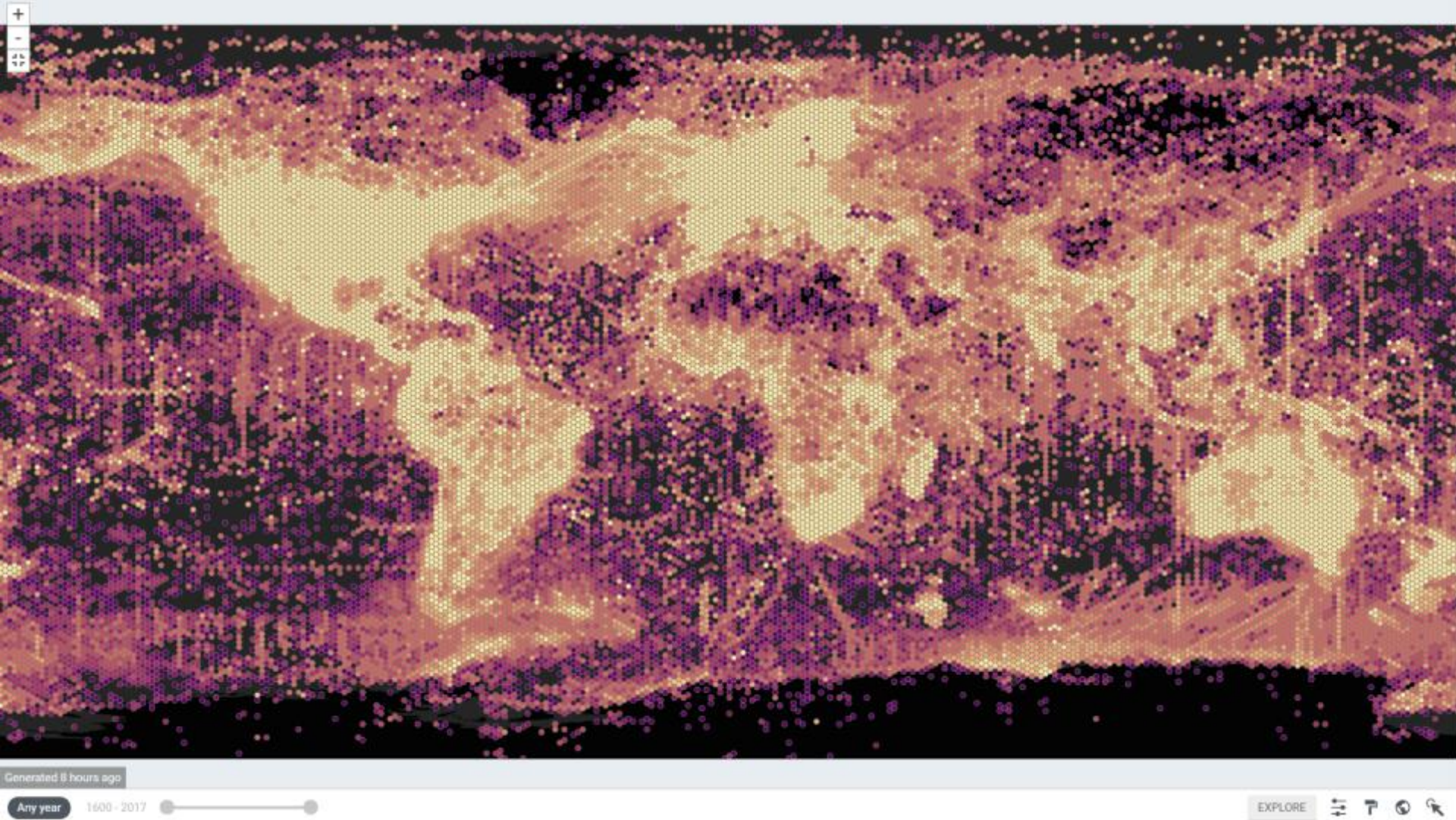


Top tips for the new GBIF.org

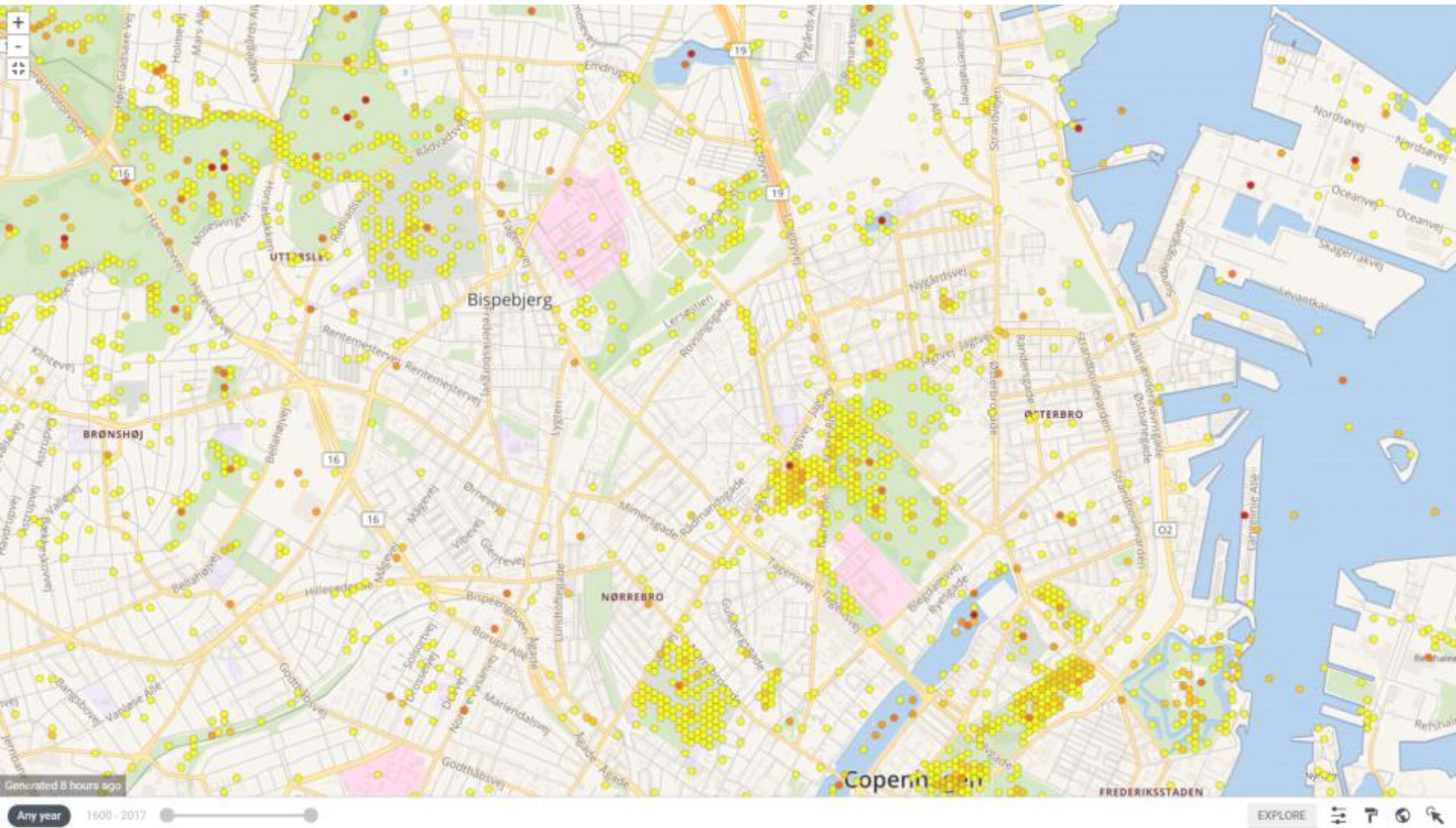
Updates on new features (last updated 13 Sep 2017)



DATA DENSITY



LOCAL DATA



SPECIES VIEWS

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Classification

Recent & popular

Kingdom: **Animalia**

Phylum: **Arthropoda**

Class: **Insecta**

Order: **Lepidoptera**

Family: **Pterophoridae**

Genus: **Emmeline** Tutt, 1905

Species: ***Emmeline monodactyla* Linnaeus, 1758**

Synonyms

- *Emmeline barberi* (Dyar, 1903)
- *Emmeline bidactyla* (Hochenwarth, 1785)
- *Emmeline cineridactylus* (Fitch, 1855)
- *Emmeline impersonalis* (Walker, 1864)
- *Emmeline naevosidactylus* (Fitch, 1855)
- *Emmeline pergracilidactylus* (Packard, 1873)
- *Emmeline pterodactyla* (Hübner, 1805)
- *Emmeline rufa* (Dufrene, 1960)
- *Phalaena bidactyla* Hochenwarth, 1785
- *Phalaena monodactyle* Linnaeus, 1758
- *Pterophorus barberi* Dyar, 1903
- *Pterophorus cineridactylus* Fitch, 1854
- *Pterophorus impersonalis* Walker, 1864
- *Pterophorus naevosidactylus* Fitch, 1854

SPECIES | ACCEPTED

Emmeline monodactyla Linnaeus, 1758

Published in: Linnaeus C. Systema Naturae per Regna Tria Naturae, ... Tomus I. Editio Decima, Reformata. — 1758 Source: Catalogue of Life

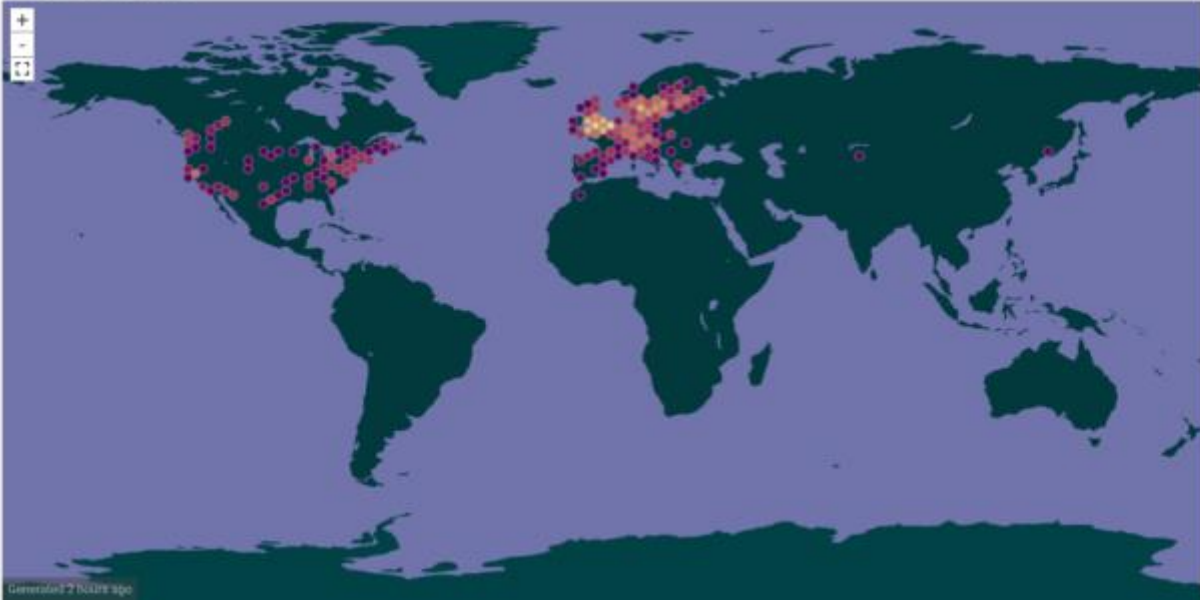
OVERVIEWREFERENCE TAXON 

13,103 OCCURRENCES

291 OCCURRENCE RECORDS WITH IMAGES

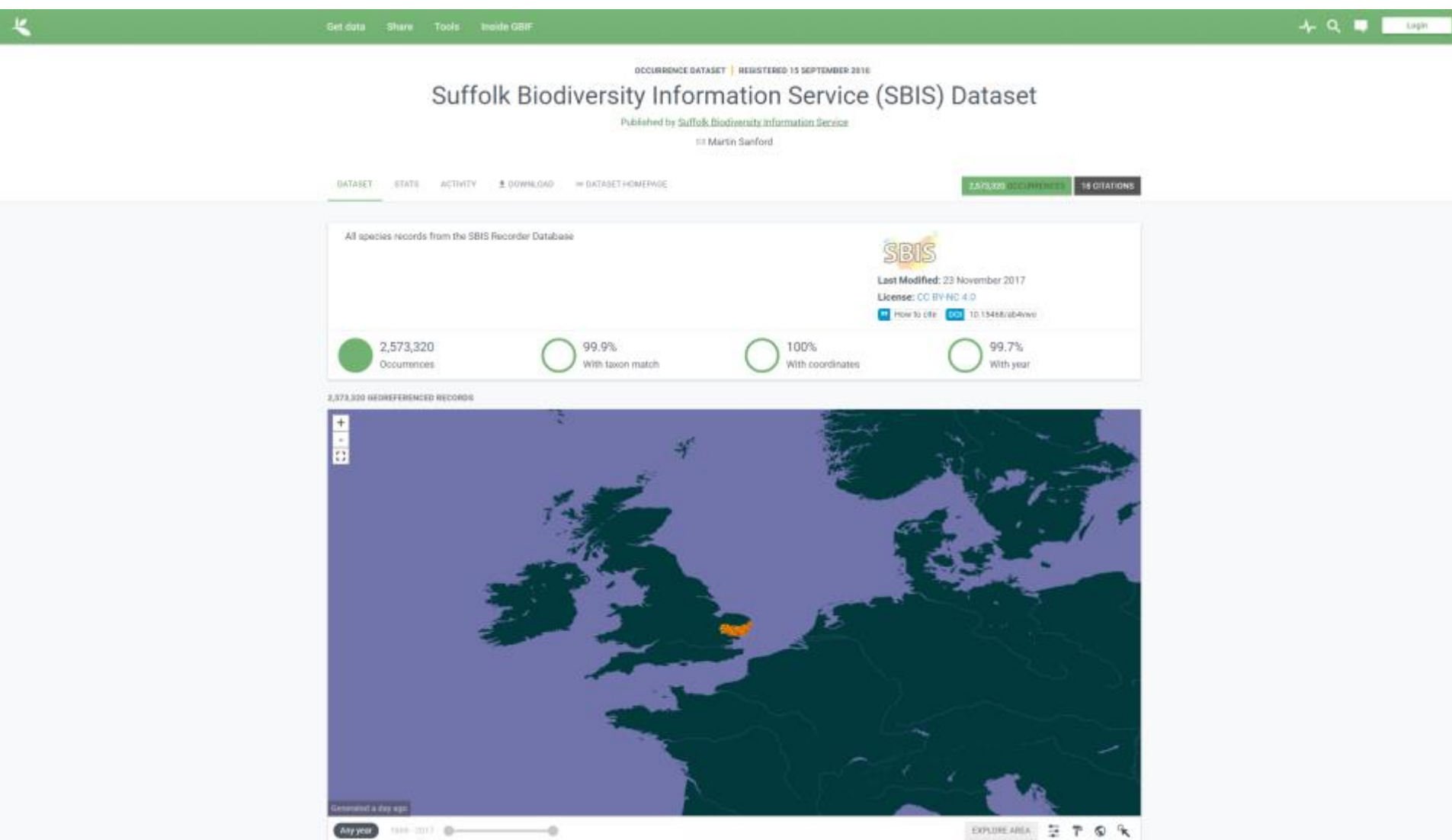


12,993 GEOREFERENCED RECORDS



Generated by GBIF.org

DATASET VIEWS



DATA FILTERS

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Occurrences 2

SEARCH OCCURRENCES | 307,799 RESULTS

Search all fields 

SimpleAdvanced

Record License

Scientific Name

Basis Of Record

Location

☒ Including coordinates

☒ POLYGON(12.49 55.66,12.49 55.73,12.62 55.7...

Year

Month

Dataset

Country

Issue

Media Type

Publisher

Institution Code

Collection Code

Catalogue Number

Type Status

TABLEGALLERYMAPSPECIESDATASETSDOWNLOAD

Scientific Name	Country	Coordinates	Basis Of Record	Month & Year	Dataset
Chroicocephalus ridibundus (Linnaeus, 1...	Denmark	55.7N, 12.6E	human observation	2017 January	iNaturalist Research-grade Observation
Accipiter nisus (Linnaeus, 1758)	Denmark	55.7N, 12.6E	human observation	2017 January	iNaturalist Research-grade Observation
Pleurotus ostreatus (Jacq.) P. Kumm., 18...	Denmark	55.7N, 12.5E	human observation	2017 January	Danish Mycological Society, fungal rec
Chondrostereum purpureum (Pers.) Pouz...	Denmark	55.7N, 12.5E	human observation	2017 January	Danish Mycological Society, fungal rec
Pleurotus ostreatus (Jacq.) P. Kumm., 18...	Denmark	55.7N, 12.5E	human observation	2017 January	Danish Mycological Society, fungal rec
Anas platyrhynchos Linnaeus, 1758	Denmark	55.7N, 12.6E	human observation	2017 January	iNaturalist Research-grade Observation
Auricularia auricula-judae (Fr.) Quél., 1886	Denmark	55.7N, 12.5E	human observation	2017 January	Danish Mycological Society, fungal rec
Gallinula chloropus (Linnaeus, 1758)	Denmark	55.7N, 12.6E	human observation	2017 January	iNaturalist Research-grade Observation
Scoliopteryx libatrix Linnaeus, 1758	Denmark	55.7N, 12.5E	human observation	2017 February	iNaturalist Research-grade Observation
Plicatura crispa (Pers.) Rea, 1922	Denmark	55.7N, 12.5E	human observation	2017 February	Danish Mycological Society, fungal rec
Ischnoderma resinosum (Schrad.) P. Kars...	Denmark	55.7N, 12.5E	human observation	2017 February	Danish Mycological Society, fungal rec
Auricularia auricula-judae (Fr.) Quél., 1886	Denmark	55.7N, 12.6E	human observation	2017 February	Danish Mycological Society, fungal rec
Auricularia mesenterica (Dicks.) Pers., 18...	Denmark	55.7N, 12.6E	human observation	2017 February	Danish Mycological Society, fungal rec
Myxarium nucleatum Walr., 1833	Denmark	55.7N, 12.5E	human observation	2017 February	Danish Mycological Society, fungal rec
Eranthis hyemalis (L.) Salisb.	Denmark	55.7N, 12.5E	human observation	2017 February	iNaturalist Research-grade Observation
Tremella mesenterica Retz., 1769	Denmark	55.7N, 12.5E	human observation	2017 February	Danish Mycological Society, fungal rec

CITABLE DOWNLOAD RESULTS

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DOWNLOAD | 15 SEPTEMBER 2017

307,814 occurrences downloaded

DOI 10.15468/dl.rq2lze

DOWNLOAD

FILTER APPLIED 15 SEPTEMBER 2017

RERUN QUERY

Citation: GBIF Occurrence Download doi:10.15468/dl.rq2lze accessed via GBIF.org on 15 Sep 2017**File:** 13 MB CSV [For how long will GBIF store this data?](#)**Involved Datasets:** 97

And

API

- Geometry Polygon((12.49 55.66,12.49 55.73,12.62 55.73,12.62 55.66,12.49 55.66))
- Has coordinate True
- Has geospatial issue False

Includes records from 97 datasets

International Barcode of Life project (IBOL)

12

A global database for the distributions of crop wild relatives

3

DOWNLOAD RESULTS

0007889-170826194755519.txt - Excel

Donald Hobern

FileHomeInsertPage LayoutFormulasDataReviewViewTell me what you want to do...

AA36

	A	B	D	L	M	N	O	P	Q	R	S	T	U	V	X	Y	Z
1	gbifid	datasetkey	kingdom	taxonrank	taxonkey	specieskey	scientificname	count	eventdate	day	month	year	basisofrecord	locality	decimallat	decimallong	coordinate
2	1438049789	84d26682	Fungi	SPECIES	9137419	2548633	Hapalopilus rutilans (Pers.) P. Karst., 1881	DK	2017-03-05T01:00Z	5	3	2017	HUMAN_OBSERVATION	SÅndermarken	55.66901	12.52423	2500
3	1438617871	8f7e3c45	Fungi	SPECIES	2609145	2609145	Phaeophyscia orbicularis (Neck.) Moberg	DK	2016-09-07T02:00Z	7	9	2016	PRESERVED_SPECIMEN	SÅlvgade, "Hundeparken"	55.69	12.58	
4	278315340	4fa7b334	Animalia	SPECIES	5230791	5230791	Hirundo rustica Linnaeus, 1758	DK	2010-07-01T02:00Z	1	7	2010	HUMAN_OBSERVATION	Copenhagen - Nyhavn	55.67681	12.5893	
5	278327117	4fa7b334	Animalia	SPECIES	5230791	5230791	Hirundo rustica Linnaeus, 1758	DK	2008-06-14T02:00Z	14	6	2008	HUMAN_OBSERVATION	Utterslev Mose	55.7149	12.4941	
6	278716812	4fa7b334	Animalia	SPECIES	8095051	8095051	Parus major Linnaeus, 1758	DK	2008-06-14T02:00Z	14	6	2008	HUMAN_OBSERVATION	Utterslev Mose	55.7149	12.4941	
7	278928363	4fa7b334	Animalia	SPECIES	5231190	5231190	Passer domesticus (Linnaeus, 1758)	DK	2010-07-01T02:00Z	1	7	2010	HUMAN_OBSERVATION	Copenhagen - Nyhavn	55.67681	12.5893	
8	991794249	e6c97f6e	Animalia	SPECIES	2493091	2493091	Phylloscopus collybita (Vieillot, 1817)	DK	2014-04-08T12:51Z	8	4	2014	HUMAN_OBSERVATION		55.66765	12.5449	23
9	1160384356	4fa7b334	Animalia	SPECIES	6065824	6065824	Chroicocephalus ridibundus (Linnaeus, 1766)	DK	2014-03-18T01:00Z	18	3	2014	HUMAN_OBSERVATION	Frederiksberg Have	55.67594	12.52639	
10	1160384369	4fa7b334	Animalia	SPECIES	8095051	8095051	Parus major Linnaeus, 1758	DK	2014-03-18T01:00Z	18	3	2014	HUMAN_OBSERVATION	Frederiksberg Have	55.67594	12.52639	
11	1160384382	4fa7b334	Animalia	SPECIES	2490719	2490719	Turdus merula Linnaeus, 1758	DK	2014-03-18T01:00Z	18	3	2014	HUMAN_OBSERVATION	Frederiksberg Have	55.67594	12.52639	
12	1160384386	4fa7b334	Animalia	SPECIES	2482515	2482515	Corvus cornix Linnaeus, 1758	DK	2014-03-18T01:00Z	18	3	2014	HUMAN_OBSERVATION	Frederiksberg Have	55.67594	12.52639	
13	1160384397	4fa7b334	Animalia	SPECIES	5228199	5228199	Gallinula chloropus (Linnaeus, 1758)	DK	2014-03-18T01:00Z	18	3	2014	HUMAN_OBSERVATION	Frederiksberg Have	55.67594	12.52639	
14	1160384399	4fa7b334	Animalia	SPECIES	2498343	2498343	Cygnus olor (Gmelin, 1789)	DK	2014-03-18T01:00Z	18	3	2014	HUMAN_OBSERVATION	Frederiksberg Have	55.67594	12.52639	
15	1160384407	4fa7b334	Animalia	SPECIES	2474377	2474377	Fulica atra Linnaeus, 1758	DK	2014-03-18T01:00Z	18	3	2014	HUMAN_OBSERVATION	Frederiksberg Have	55.67594	12.52639	
16	1160384414	4fa7b334	Animalia	SPECIES	5229490	5229490	Pica pica (Linnaeus, 1758)	DK	2014-03-18T01:00Z	18	3	2014	HUMAN_OBSERVATION	Frederiksberg Have	55.67594	12.52639	
17	1160384417	4fa7b334	Animalia	SPECIES	2498015	2498015	Tadorna ferruginea (Pallas, 1764)	DK	2014-03-18T01:00Z	18	3	2014	HUMAN_OBSERVATION	Frederiksberg Have	55.67594	12.52639	
18	1160384421	4fa7b334	Animalia	SPECIES	2481139	2481139	Larus argentatus Pontoppidan, 1763	DK	2014-03-18T01:00Z	18	3	2014	HUMAN_OBSERVATION	Frederiksberg Have	55.67594	12.52639	
19	1160384424	4fa7b334	Animalia	SPECIES	2477968	2477968	Dendrocopos major (Linnaeus, 1758)	DK	2014-03-18T01:00Z	18	3	2014	HUMAN_OBSERVATION	Frederiksberg Have	55.67594	12.52639	
20	1160384425	4fa7b334	Animalia	SPECIES	2482473	6100954	Corvus monedula Linnaeus, 1758	DK	2014-03-18T01:00Z	18	3	2014	HUMAN_OBSERVATION	Frederiksberg Have	55.67594	12.52639	
21	1160384426	4fa7b334	Animalia	SPECIES	2480925	2480925	Ardea cinerea Linnaeus, 1758	DK	2014-03-18T01:00Z	18	3	2014	HUMAN_OBSERVATION	Frederiksberg Have	55.67594	12.52639	
22	1160384434	4fa7b334	Animalia	SPECIES	5232437	5232437	Branta canadensis (Linnaeus, 1758)	DK	2014-03-18T01:00Z	18	3	2014	HUMAN_OBSERVATION	Frederiksberg Have	55.67594	12.52639	
23	1160384466	4fa7b334	Animalia	SPECIES	2498036	2498036	Anser anser (Linnaeus, 1758)	DK	2014-03-18T01:00Z	18	3	2014	HUMAN_OBSERVATION	Frederiksberg Have	55.67594	12.52639	
24	1161073631	4fa7b334	Animalia	GENUS	2492460		Erithacus Cuvier, 1800	DK	2014-03-24T01:00Z	24	3	2014	HUMAN_OBSERVATION	Copenhagen Mermaid Harbo	55.69292	12.59912	
25	1161073641	4fa7b334	Animalia	SPECIES	2495455	2495455	Columba palumbus Linnaeus, 1758	DK	2014-03-24T01:00Z	24	3	2014	HUMAN_OBSERVATION	Copenhagen Mermaid Harbo	55.69292	12.59912	
26	1161073652	4fa7b334	Animalia	SPECIES	2480925	2480925	Ardea cinerea Linnaeus, 1758	DK	2014-03-24T01:00Z	24	3	2014	HUMAN_OBSERVATION	Copenhagen Mermaid Harbo	55.69292	12.59912	
27	1161073656	4fa7b334	Animalia	SPECIES	6065824	6065824	Chroicocephalus ridibundus (Linnaeus, 1766)	DK	2014-03-24T01:00Z	24	3	2014	HUMAN_OBSERVATION	Copenhagen Mermaid Harbo	55.69292	12.59912	
28	1161073657	4fa7b334	Animalia	SPECIES	2498261	2498261	Aythya fuligula (Linnaeus, 1758)	DK	2014-03-24T01:00Z	24	3	2014	HUMAN_OBSERVATION	Copenhagen Mermaid Harbo	55.69292	12.59912	
29	1161073667	4fa7b334	Animalia	SPECIES	2474377	2474377	Fulica atra Linnaeus, 1758	DK	2014-03-24T01:00Z	24	3	2014	HUMAN_OBSERVATION	Copenhagen Mermaid Harbo	55.69292	12.59912	
30	1161073678	4fa7b334	Animalia	SPECIES	2498343	2498343	Cygnus olor (Gmelin, 1789)	DK	2014-03-24T01:00Z	24	3	2014	HUMAN_OBSERVATION	Copenhagen Mermaid Harbo	55.69292	12.59912	
31	1161073688	4fa7b334	Animalia	SPECIES	5845582	5845582	Chloris chloris (Linnaeus, 1758)	DK	2014-03-24T01:00Z	24	3	2014	HUMAN_OBSERVATION	Copenhagen Mermaid Harbo	55.69292	12.59912	
32	1161073704	4fa7b334	Animalia	SPECIES	2498036	2498036	Anser anser (Linnaeus, 1758)	DK	2014-03-24T01:00Z	24	3	2014	HUMAN_OBSERVATION	Copenhagen Mermaid Harbo	55.69292	12.59912	
33	1161073723	4fa7b334	Animalia	SPECIES	2490719	2490719	Turdus merula Linnaeus, 1758	DK	2014-03-24T01:00Z	24	3	2014	HUMAN_OBSERVATION	Copenhagen Mermaid Harbo	55.69292	12.59912	
34	1161073740	4fa7b334	Animalia	SPECIES	5231190	5231190	Passer domesticus (Linnaeus, 1758)	DK	2014-03-24T01:00Z	24	3	2014	HUMAN_OBSERVATION	Copenhagen Mermaid Harbo	55.69292	12.59912	

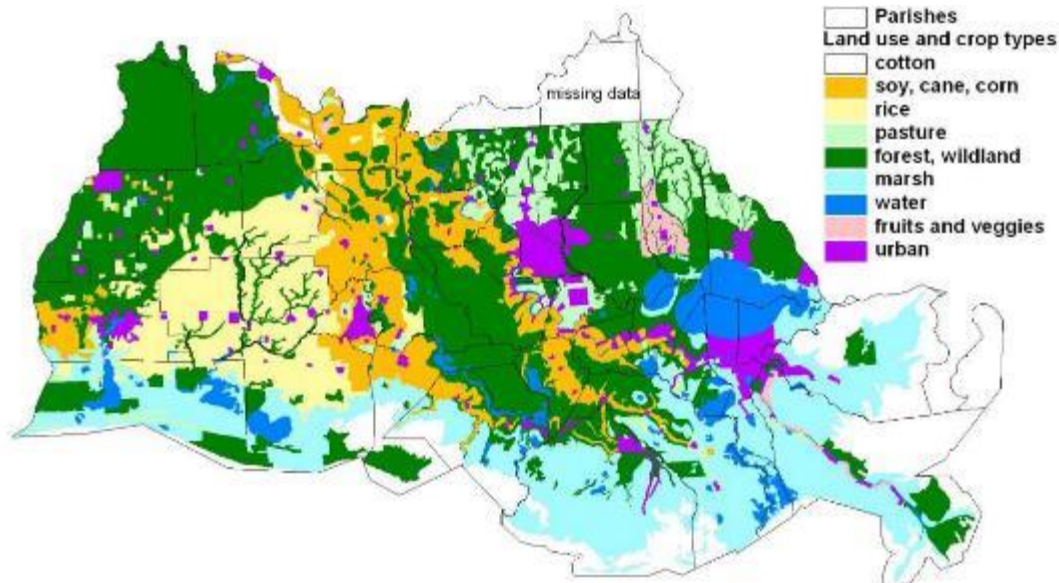
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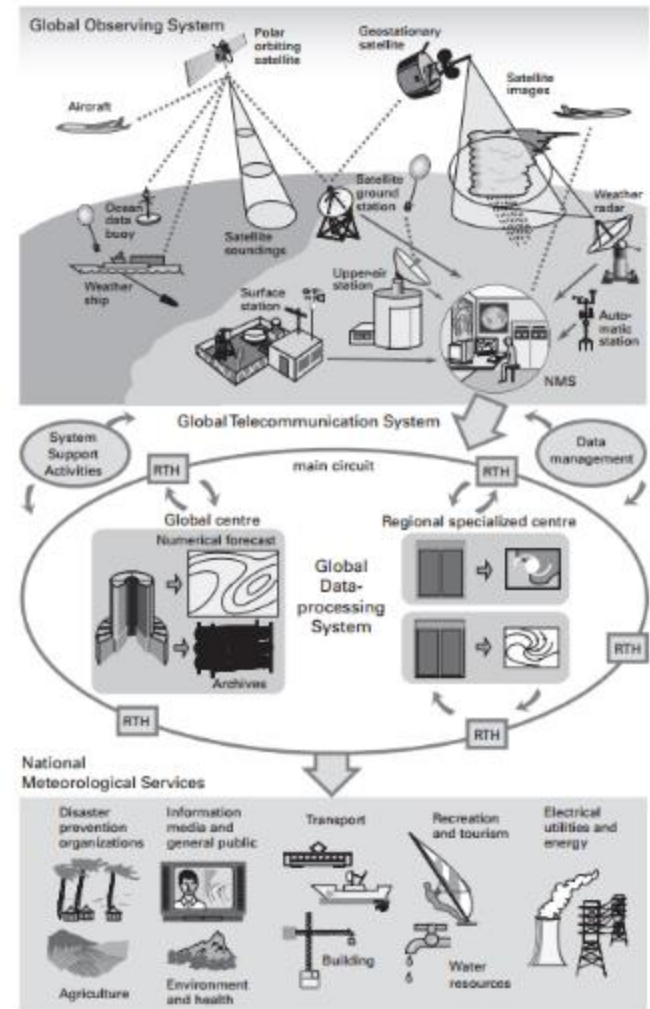
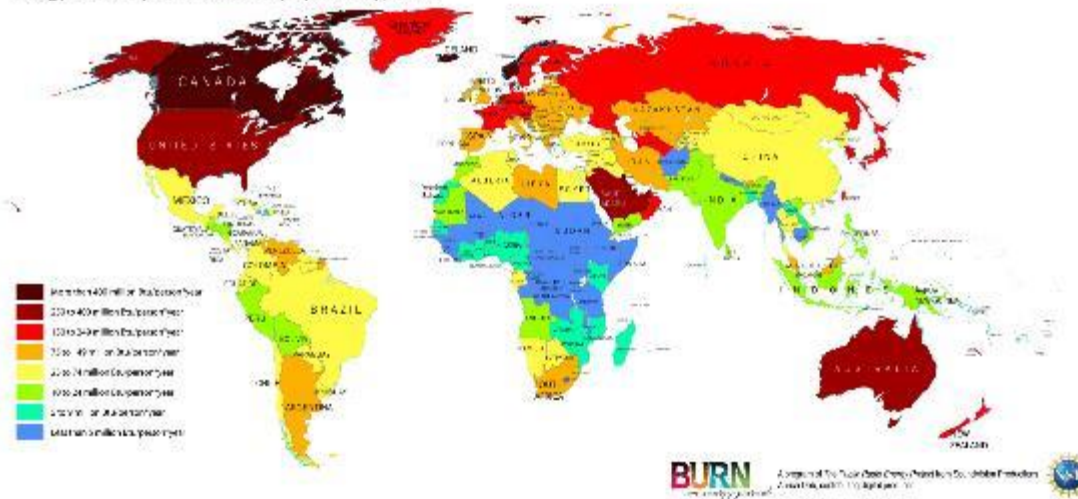
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BIG DATA SUPPORTING SOCIETY

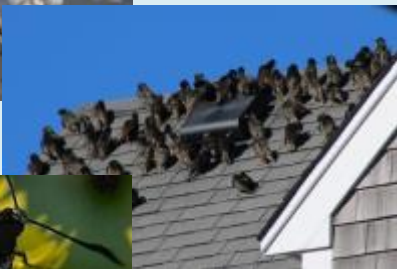


Energy Consumption Per Person, by country, 2009.

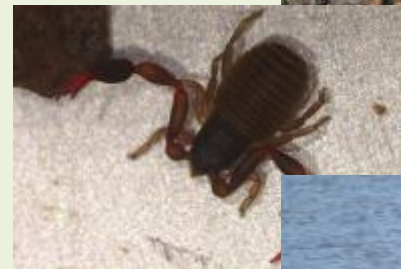


BIODIVERSITY

1977



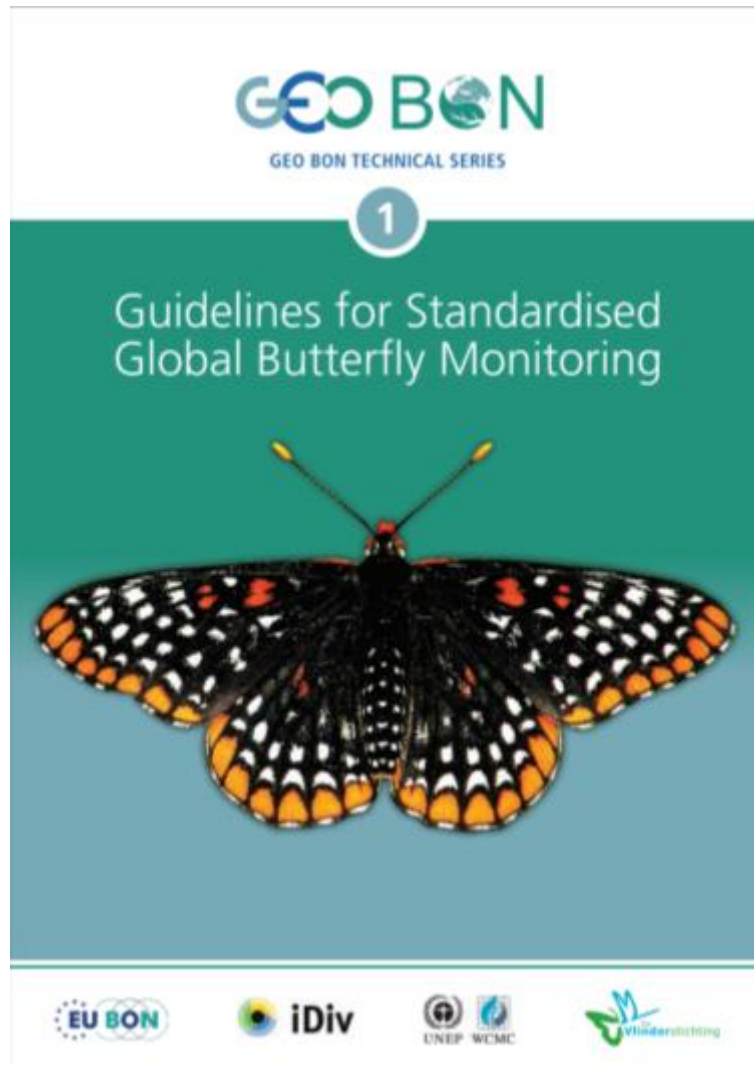
2017



ESSENTIAL BIODIVERSITY VARIABLES

LATITUDE	Species 1 ***** Species 2 **** Species 3 *** Species 4 ** Species 5 *	LATITUDE	Species 1 **** Species 2 ****	LATITUDE	Species 1 *** Species 2 *****	Species 1 * Species 2 ****	LONGITUDE
	Species 1 **** Species 2 **** Species 3 **** Species 4 ** Species 5 *		Species 1 ***** Species 2 **** Species 3 *** Species 4 ** Species 5 *		Species 1 *** Species 2 ****	Species 1 **** Species 2 ****	
	Species 1 ** Species 2 ** Species 3 ** Species 4 ** Species 6 *		Species 1 ** Species 2 ** Species 3 ** Species 4 ** Species 6 *		Species 1 ** Species 2 **** Species 3 ** Species 4 *** Species 5 *** Species 6 *	Species 1 **** Species 2 **** Species 4 **** Species 5 **	
	Species 1 *		Species 1 *		Species 1 ***** Species 2 ** Species 3 *** Species 4 ***** Species 6 *	Species 1 ** Species 4 **** Species 5 **** Species 6 * Species 7 *	
	Species 4 ** Species 5 ** Species 6 ** Species 7 *		Species 1 *		Species 1 *	Species 1 *	
	Species 1 * Species 2 ** Species 3 ** Species 4 **		Species 4 ** Species 5 ** Species 6 ** Species 7 *		Species 3 ** Species 4 ***** Species 5 ** Species 6 ** Species 7 *	Species 3 * Species 4 *** Species 5 *** Species 6 **** Species 7 **	
	Species 6 ** Species 7 **		Species 1 * Species 2 ** Species 3 ** Species 4 **		Species 1 * Species 2 ** Species 3 **** Species 4 ***	Species 2 **** Species 3 **** Species 4 *** Species 5 *** Species 6 **	
			Species 6 ** Species 7 **		Species 6 ** Species 7 *****	Species 2 ** Species 3 **** Species 4 ** Species 5 **	
t ⁰		t ¹		t ²	LONGITUDE		

GLOBAL BUTTERFLY MONITORING



1.3 Why international guidelines?

Butterfly monitoring is usually organised on a national or state level, and most countries have developed their monitoring schemes independently. These schemes are organised mostly by NGOs with various involvement from other institutions and individuals (governmental agencies, university researchers, research institutes, etc.). National butterfly monitoring schemes employ an array of different field protocols, such as 'Pollard walks' in the UK (Pollard and Yates, 1993) or fruit-bait trapping in Brazil (Freitas *et al.*, 2014). If these monitoring schemes use standardised methodologies and document the results of their schemes according to agreed standards and formats, then trends in butterfly populations can be assessed at local, national, regional, and even global scales. The aim of these guidelines, therefore, is to document the agreed, standard methodologies for monitoring butterflies in different ecosystems, biogeographic regions and climatic zones.

FAIR & OPEN DATA



Biodiversity
Information
Standards
TDWG



Findable

- Free, open access to biodiversity data
- Data downloads the only action that requires an account
- Well-documented API & web services

Accessible

- GBIF.org and network portals
- Directly through open-source tools: GBIF IPT, ALA Living Atlases

Interoperable

Community-supported standards

- Darwin Core
- ABCD
- Audubon Core
- Dublin Core Metadata
- Ecological Metadata Language (EML)

Reusable

- Machine-readable Creative Commons licenses
- DOIs assigned to provide stable, repeatable references for
 - datasets
 - user downloads
 - data papers

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☒ Suffolk Biodiversity Information Service (SBIS) Dataset

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SEARCH RESOURCES | 18 RESULTS

ALLLITERATURE

Read more about literature, how it's discovered and linked to GBIF-mediated data.

Assessing the Potential of Sponges (Porifera) as Indicators of Ocean Dissolved Si Concentrations

Literature

Alvarez, B. Frings, P. Clymans, W. Fontorbe, G. Conley, D. (2017) Frontiers in Marine Science

We explore the distribution of sponges along dissolved silica (dSi) concentration gradients to test whether sponge assemblages are related to dSi and to assess the validity of fossil sponges as a palaeoecological tool for inferring dSi concentrations of the past oceans. We extracted sponge records f...

Depth gradient • Si cycle • Sponge assemblages • dissolved silica gradient • palaeoecological indicators • spatial distribution

Journal Article

Open Access

Peer-Reviewed

Data used in study [DOI 10.15468/dl.viufhq](#)

Lignicolous species of Helotiales associated with major vegetation types in the Canary Islands

Literature

Quijada, L. Ribes, M. Negrín, R. Beltrán-Tejera, E. (2017) Willdenowia

A historical worldwide overview of the family Helotiaceae in a broad sense and a revision of its members in the Canary Islands are presented. Nine lignicolous species are described in detail (Ascocoryne cylindrium, A. sarcoides, Chlorocloria aeruginascens, Cyathicula cyathoides, C. hystericoides, Du...

Ascomycota • Canary Islands • Helotiales • Leotiomycetes • Macaronesia • diversity

Journal Article

Open Access

Peer-Reviewed

Data used in study [DOI 10.15468/dl.7u3rj2](#) [DOI 10.15468/dl.hmzrtm](#) [DOI 10.15468/dl.haxcfv](#) [DOI 10.15468/dl.kckklw](#) [DOI 10.15468/dl.mqqodl](#) [DOI 10.15468/dl.qvouis](#) [DOI 10.15468/dl.smgwpl](#) [DOI 10.15468/dl.xen79y](#) [DOI 10.15468/dl.zpvbyD](#)

Owls - A guide to every species

Literature

Taylor, M. (2017)

Discover the fascinating and mysterious world of owls with this stunning full-color, encyclopedic visual guide that explores all 225 known species, packed with maps, photographs, illustrations, informative scientific details, and a bonus 35½" x 12" accordion poster illustrated with the true-to-size ...

Book

Data used in study [DOI 10.15468/dl.fsvcr](#)

Taxonomic bias in biodiversity data and societal preferences

Literature

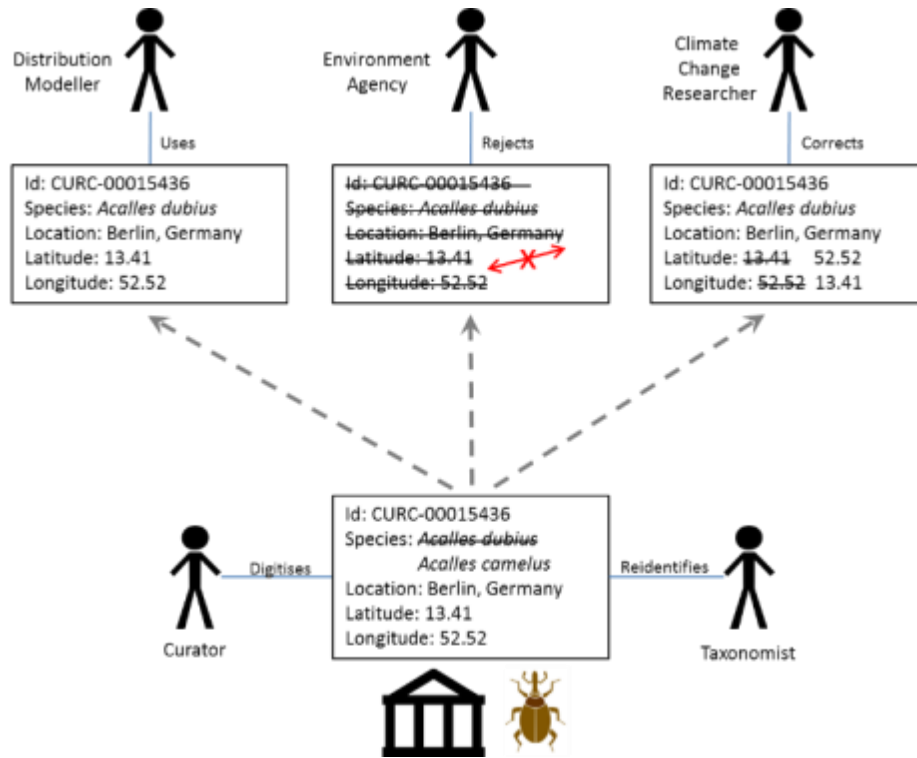
Toussaint, J. Grandcolas, P. Bégin, A. Vienne, J. Lehoucq, F. Lamadon, F. (2017) Scientific Reports



Thank you

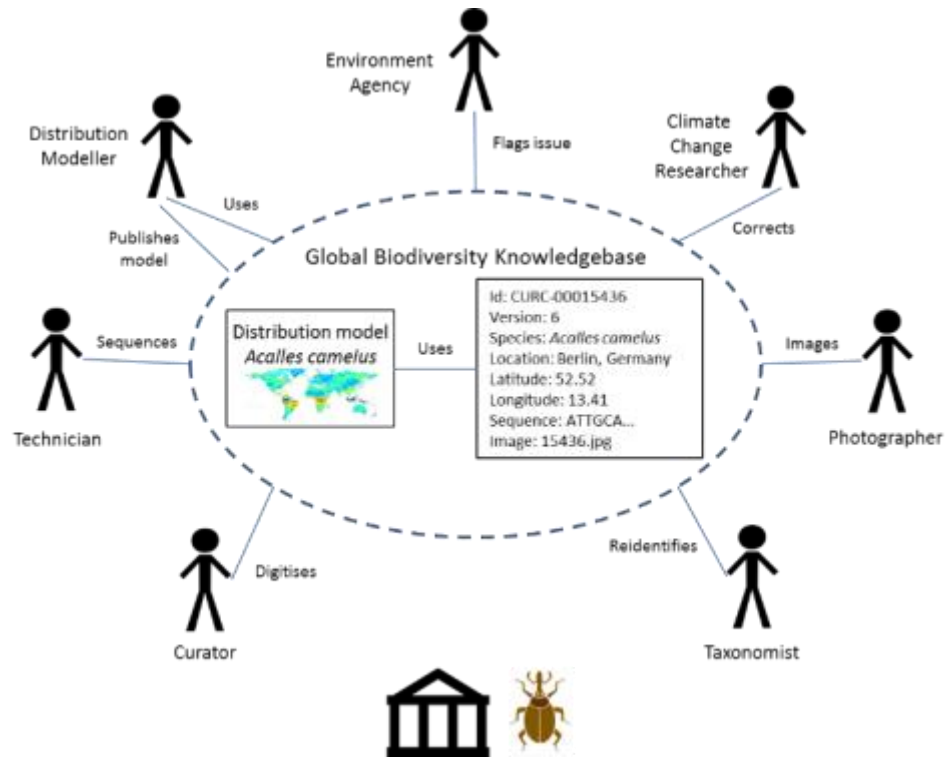
Donald Hobern
GBIF Executive Secretary
dhobern@gbif.org

COMMUNITY CURATION OF DATA



Today

- Disconnected publishing and use
- Limited feedback
- Poor ability to reference data



Future?

- Stable, connected data from all sources
- Collaborative management
- Continuous step-wise improvement