GBIF participation in Asia

Tim Hirsch, Deputy Director, GBIF

GBIF Global Biodiversity Information Facility

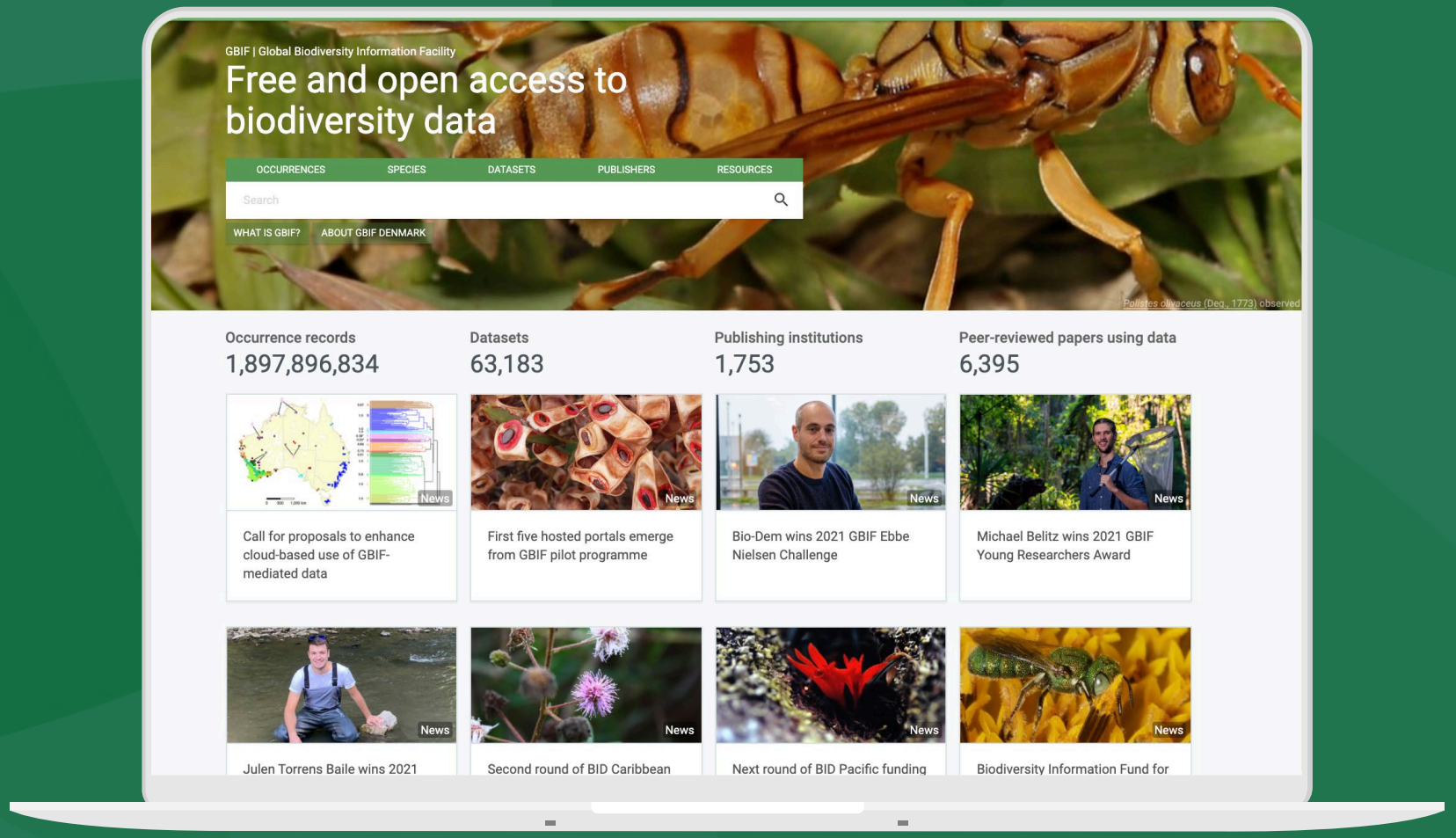
WHAT IS GBIF?

Intergovernmental network and data infrastructure

Provides anyone, anywhere, free and open access to data about all types of life on Earth

Voluntary collaboration through Memorandum of Understanding

Participant nodes, Secretariat in Copenhagen, DK

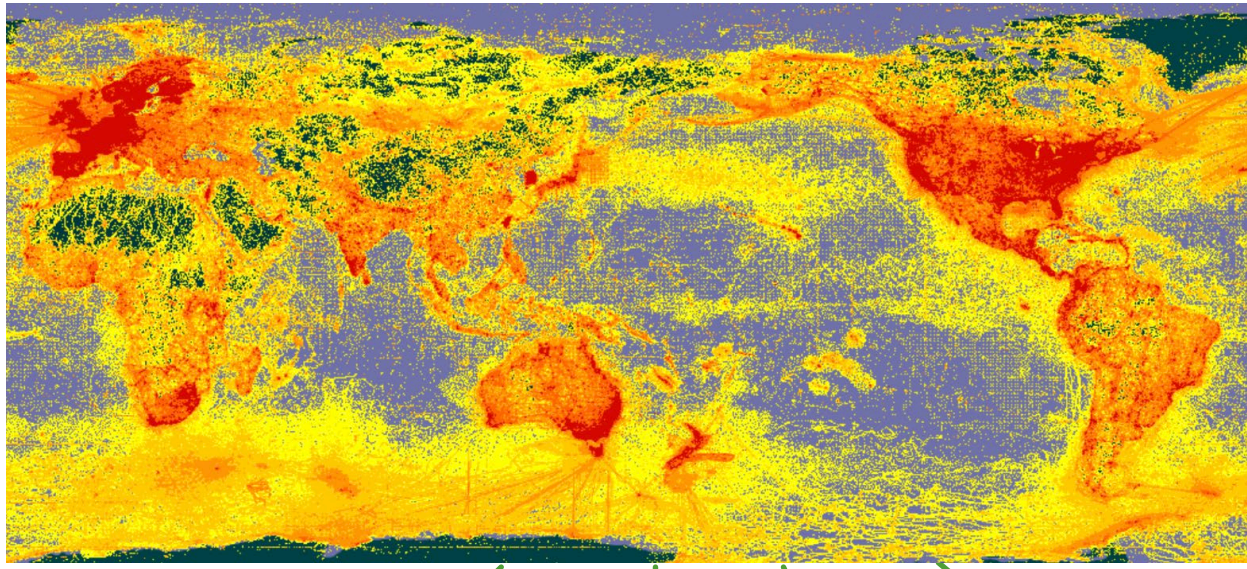


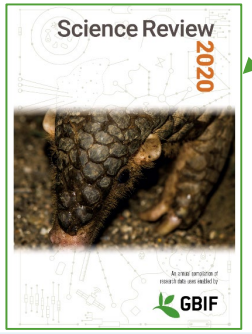
https://www.gbif.org/

GBIF

A WINDOW ON EVIDENCE ABOUT WHERE SPECIES HAVE LIVED, AND WHEN

- Observations/surveys
- Digitized specimens
- Literature
- Data publishing and indexing
- Common standards (DwC)
- Satellite tracking
- Environmental DNA





- Data discovery and use

ipbes

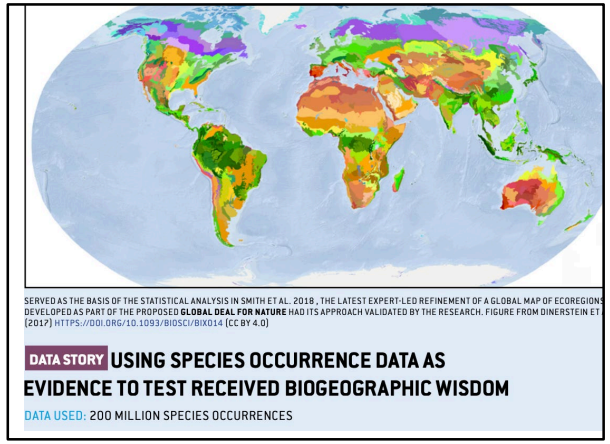
Convention on Biological Diversity

IUCN

https://www.gbif.org/occurrence/search

GBIF

A DATA RESOURCE TO SUPPORT RESEARCH AND SUSTAINABLE DEVELOPMENT



SERVED AS THE BASIS OF THE STATISTICAL ANALYSIS IN SMITH ET AL. 2018 , THE LATEST EXPERT-LED REFINEMENT OF A GLOBAL MAP OF ECOREGIONS DEVELOPED AS PART OF THE PROPOSED **GLOBAL DEAL FOR NATURE** HAD ITS APPROACH VALIDATED BY THE RESEARCH. FIGURE FROM DINERSTEIN ET (2017) HTTPS://DOI.ORG/10.1093/BIOSCI/BIX014 (CC BY 4.0)

DATA STORY **USING SPECIES OCCURRENCE DATA AS EVIDENCE TO TEST RECEIVED BIOGEOGRAPHIC WISDOM**

DATA USED: 200 MILLION SPECIES OCCURRENCES

Conservation

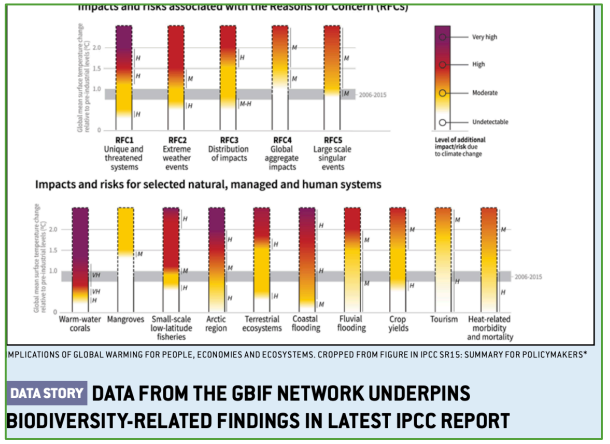
- Protected areas
- Threatened species
- Invasive species risk

COFFEA LIBERICA BY DINESH VALKE HTTPS://WWW.FLICKR.COM/PHOTOS/DINESH_VALKE/5597839545 (CC BY-SA 2.0)

DATA STORY **DEVELOPING AN INDICATOR FOR SUSTAINABLE DEVELOPMENT GOALS & BIODIVERSITY TARGETS USING OPEN DATA**

Food Security

- Crop wild relatives
- *In situ, ex situ* conservation of genetic diversity
- Fisheries planning



MPLICATIONS OF GLOBAL WARMING FOR PEOPLE, ECONOMIES AND ECOSYSTEMS. CROPPED FROM FIGURE IN IPCC SR1S: SUMMARY FOR POLICYMAKERS*

DATA STORY **DATA FROM THE GBIF NETWORK UNDERPINS BIODIVERSITY-RELATED FINDINGS IN LATEST IPCC REPORT**

Climate change

- Modelling impacts on species ranges
- Adaptation strategies
- Mitigation benefits, risks

PTEROPUS GIGANTEUS BY HEMANT KUMAR HTTPS://WWW.GBIF.ORG/OCCURRENCE/1092888502 (CC BY-NC 4.0)

DATA STORY **FLYING FOXES PREDICT NIPAH VIRUS TRANSMISSION RISK**

DATA USED: 47,942 SPECIES OCCURRENCES

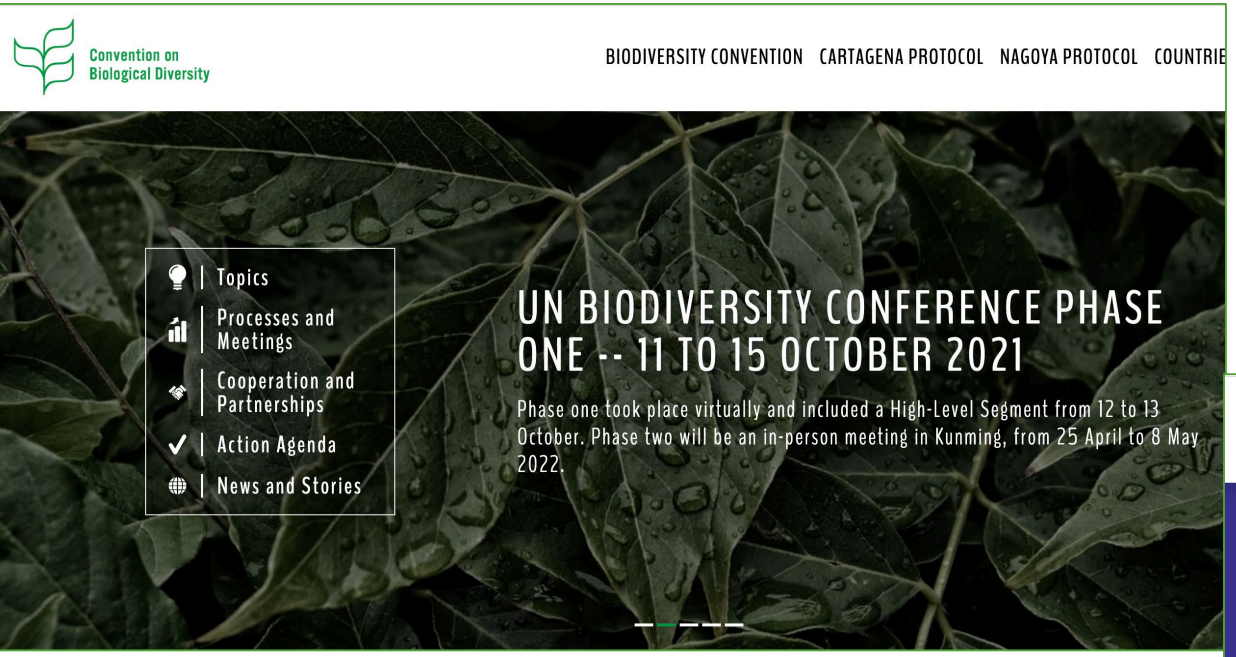
Human health

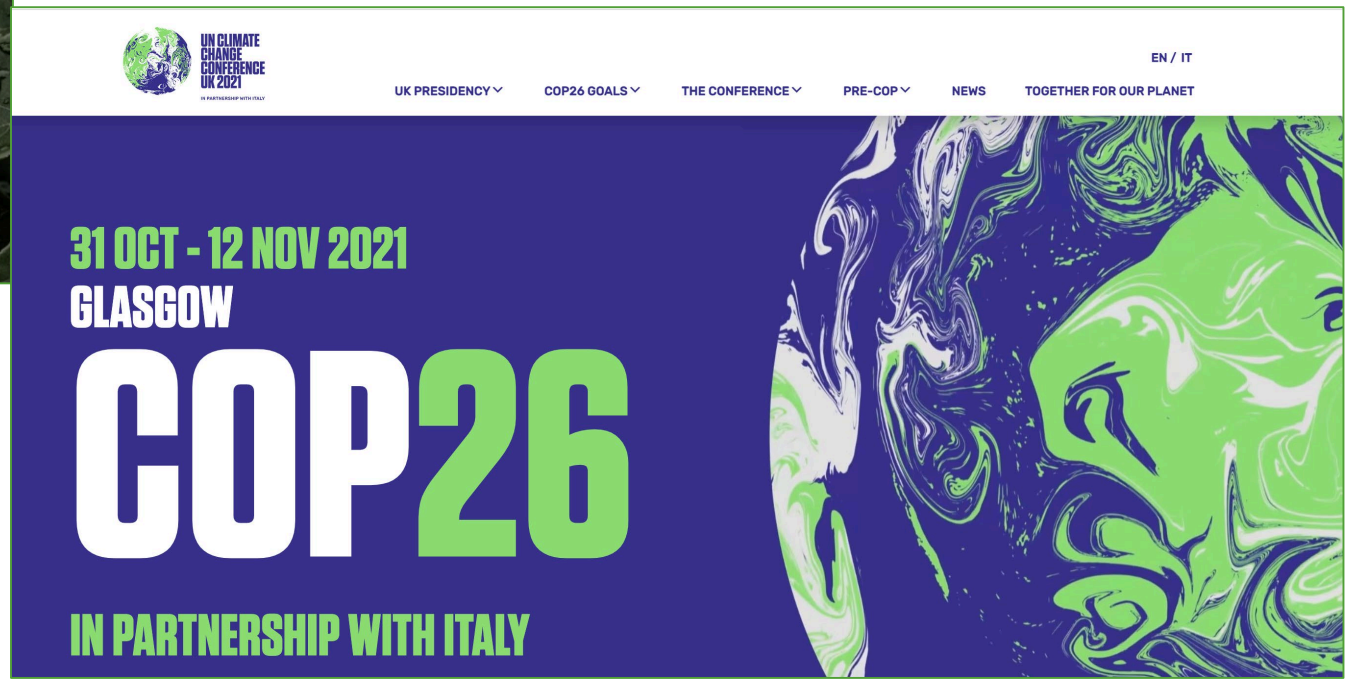
- Disease risk based on occurrence of vectors, hosts, reservoirs
- Medicinal plants
- Hazards e.g. snakebite

https://www.gbif.org/science-review

GBIF

PROVIDING DATA TO TRACK GLOBAL COMMITMENTS





GBIF PARTICIPATION IN ASIAHE GBIF NETWORK

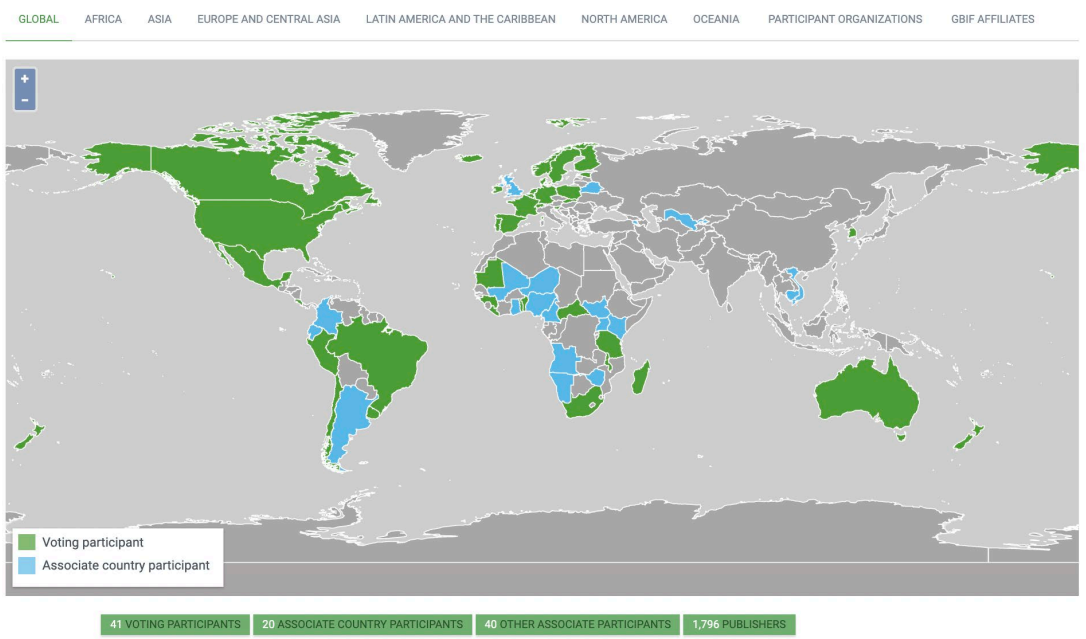
Representatives

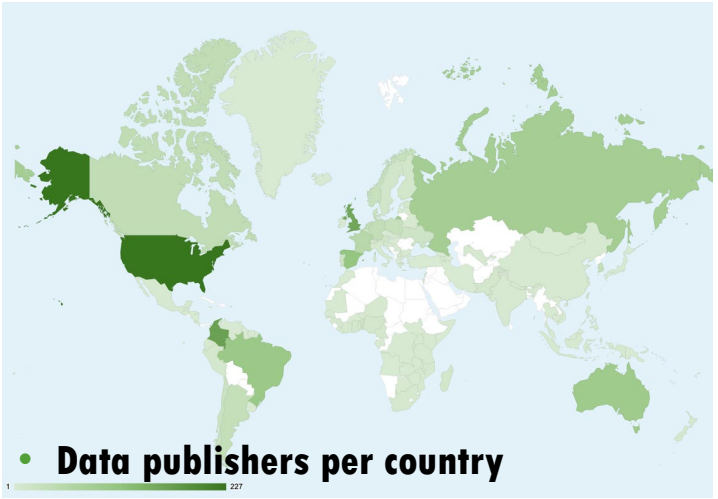
Role	Name	Participant
Nodes regional representative Asia	**Xu, Zheping**	Chinese Academy of Sciences
Nodes regional representative deputy Asia	**Tuanmu, Mao-Ning**	Chinese Taipei

9 participants

Participant	Membership	Member since	Datasets	Occurrences	Publishers
ASEAN Centre for Biodiversity	Other associate participant	2009	28	18,519	5
Cambodia	Associate country participant	2020	7	508,297	0
Chinese Academy of Sciences	Other associate participant	2013	23	1,605,146	3
Chinese Taipei	Other associate participant	2001	74	4,257,112	17
East Asia Biodiversity Conservation Network	Other associate participant	2020	2	7,680	3
International Centre for Integrated Mountain Development	Other associate participant	2009	22	13,186	3
Korea, Republic of	Voting participant	2001	176	5,177,593	40
Viet Nam	Associate country participant	2018	7	275,595	3
World Federation for Culture Collections	Other associate participant	2002	20	54,272	2

The GBIF Network





https://www.gbif.org/the-gbif-network/asia

GBIF

GROWTH OF DATA FROM ASIA IN GBIF

ANALYTICS | ASIA

Data trends for Asia

Trends in data availability on the GBIF network, 2008 to 2021

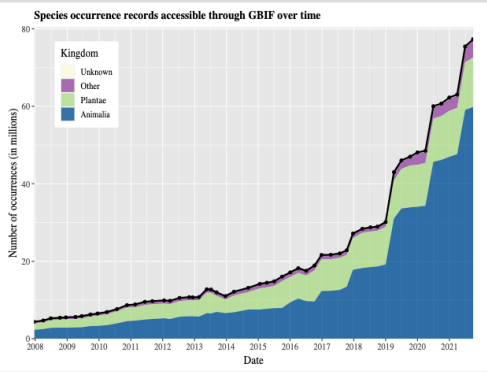
Asia

Number of occurrence records

These charts illustrate the change in availability of the species occurrence records over time.

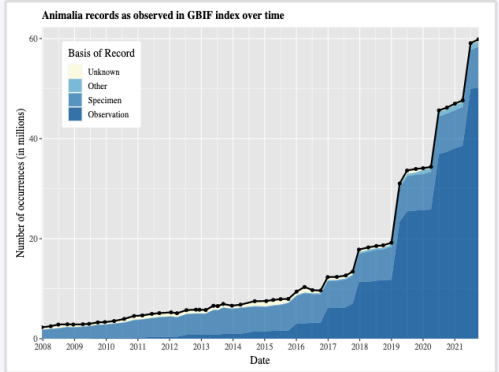
Records by kingdom

The number of available records categorized by kingdom. "Unknown" includes records with taxonomic information that cannot be linked to available taxonomic checklists.



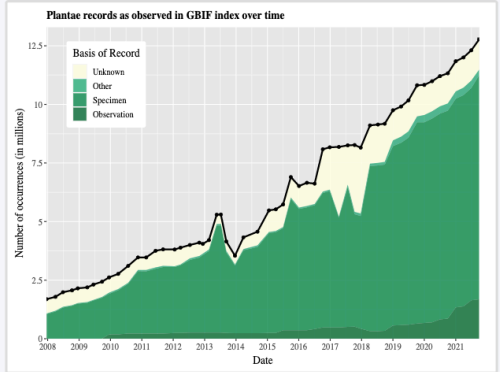
Records for Animalia

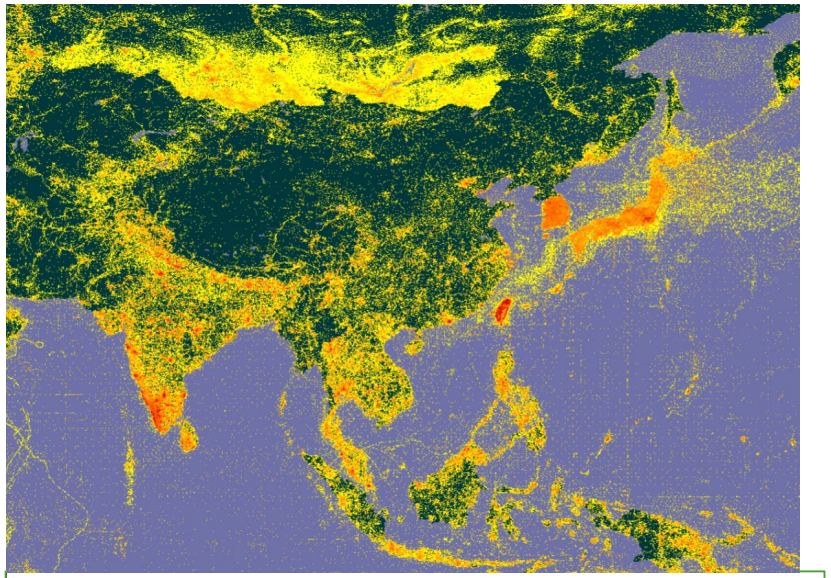
The number of animal records categorized by the basis of record. "Unknown" includes records without defined basis of record or with an unrecognized value for basis of record.

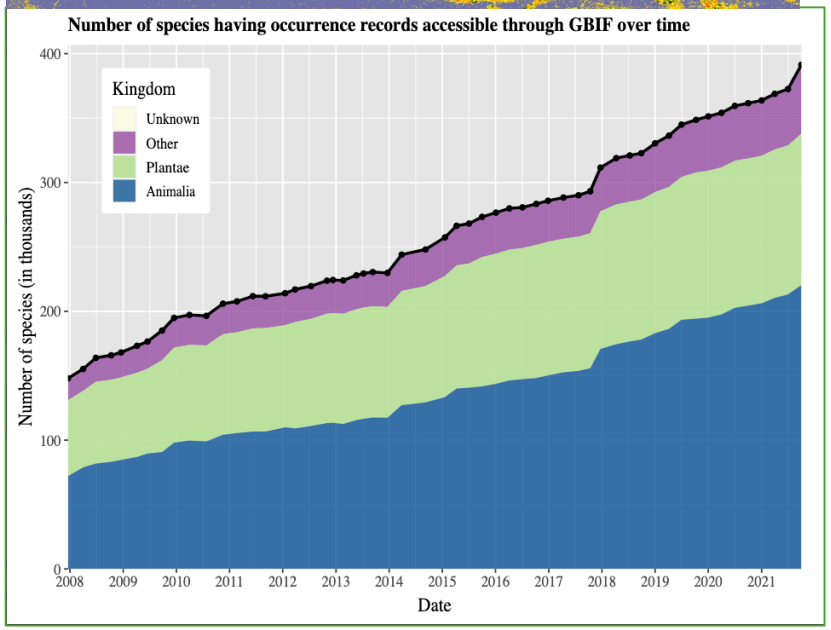


Records for Plantae

The number of plant records categorized by the basis of record. "Unknown" includes records without defined basis of record or with an unrecognized value for basis of record.



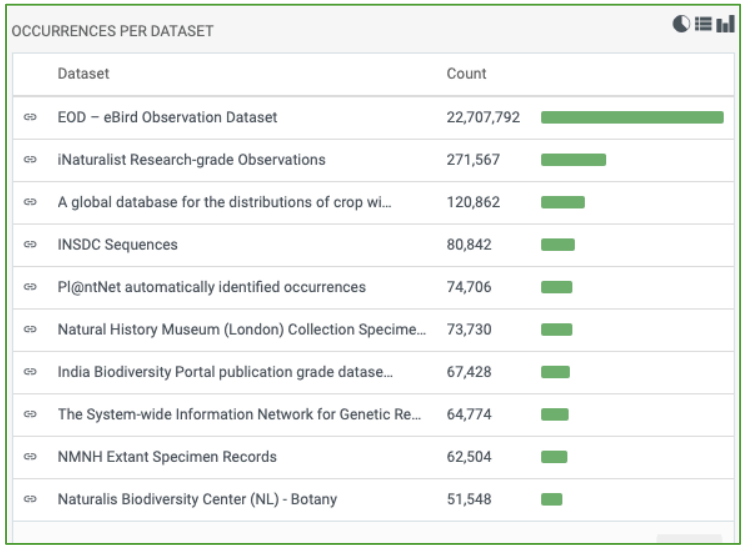


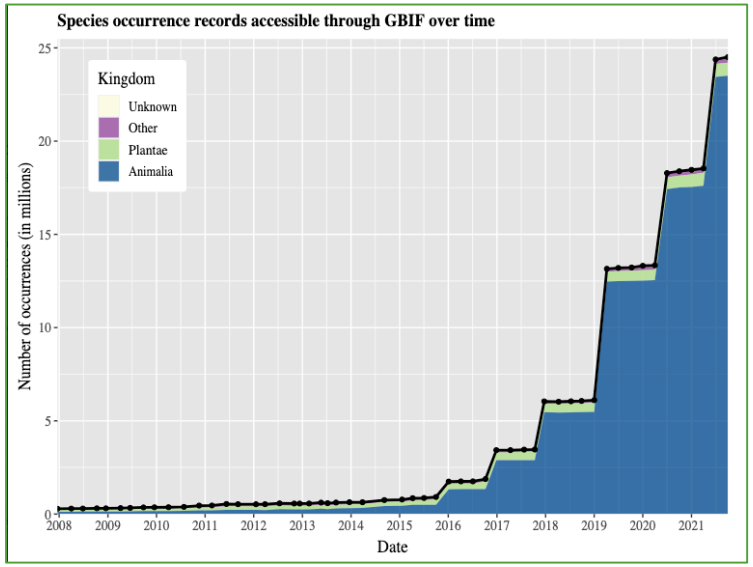


https://www.gbif.org/analytics/region/ASIA

GBIF

DATA ON INDIA'S BIODIVERSITY





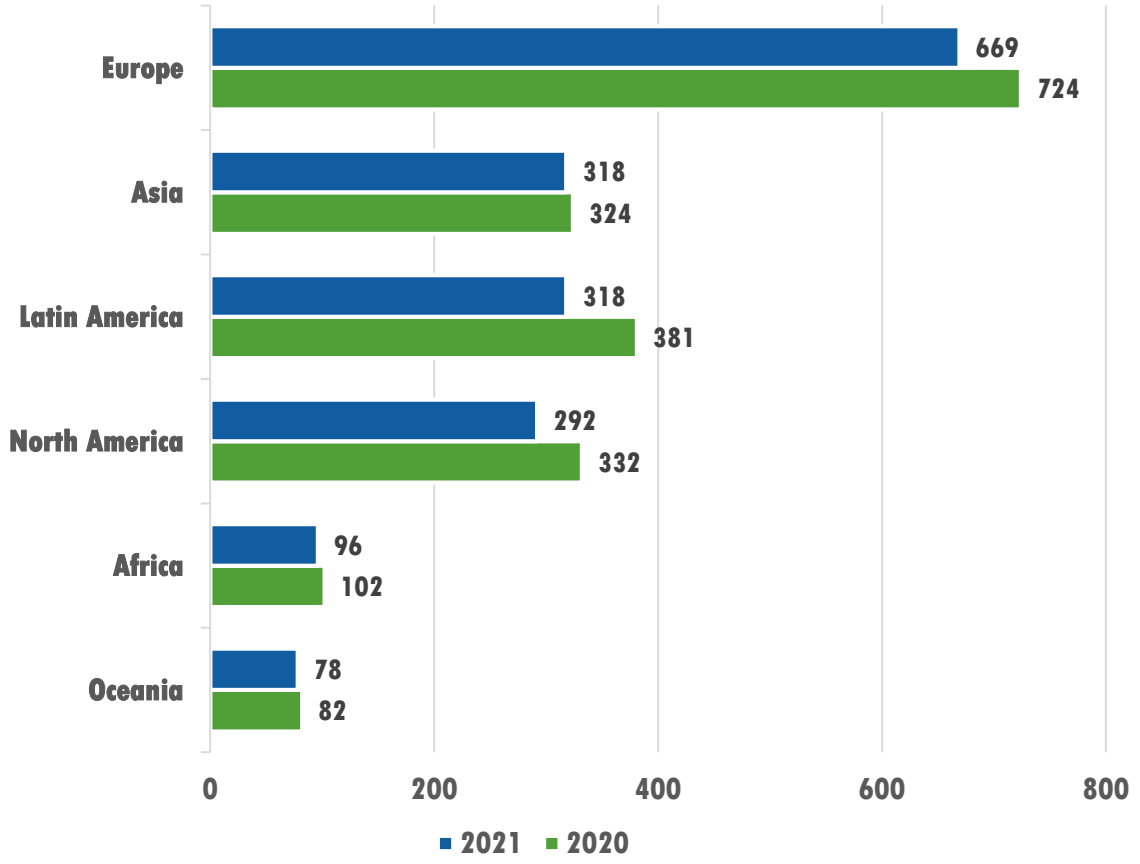
https://www.gbif.org/country/IN/summary

DATA USE IN PEER-REVIEWED JOURNALS Year-to-date, 30 Sept 2021

Peer-reviewed uses by country

Year-to-date		2021 total	2020 total	2020 rank
1	United States	245	268	1
2	China	159	168	2
3	Brazil	102	123	3
4	Germany	97	85	6
5	Mexico	94	93	5
5	United Kingdom	94	109	4
7	Spain	70	77	7
8	Australia	54	56	9
9	France	50	53	10
10	Canada	47	64	8

Peer-reviewed uses by region



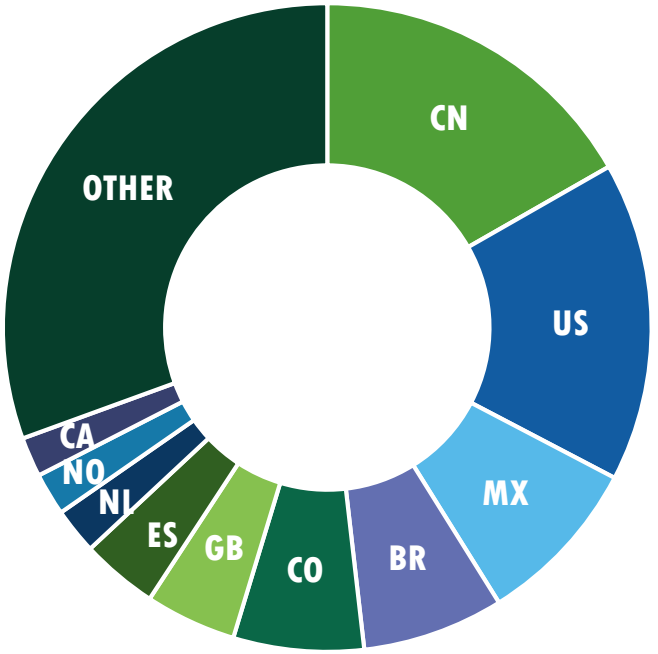
https://www.gbif.org/resource/search?contentType=literature&literatureType=journal&relevance=GBIF_USED&peerReview=true

GBIF

DATA DOWNLOAD REQUESTS Year-to-date, 30 Sept 2021

Year-to-date		*2021*	*2020 total*	*2020 rank*
1	China	32,414	26,785	2
2	United States	24,552	29,392	1
3	Mexico	16,352	24,123	3
4	Brazil	13,669	16,274	4
5	Colombia	12,597	13,501	5
6	United Kingdom	8,803	9,610	7
7	Spain	7,400	8,981	8
8	Netherlands	4,431	2,215	21
9	Norway	4,111	1,691	24
10	Canada	3,833	5,316	11
	OTHER COUNTRIES + AREAS	59,162	72,153	
	TOTAL	193,619	224,402	

Download requests
by country, island or territory



187 countries, islands & territories where users have requested downloads (+5)

GBIF

GBIF DEVELOPMENT AREA – DATA DERIVED FROM DNA SEQUENCING

OCCURRENCE DATASET | REGISTERED SEPTEMBER 13, 2021

INSDC Sequences

Published by European Nucleotide Archive (EMBL-EBI)

European Bioinformatics Institute (EMBL-EBI) • GBIF Helpdesk

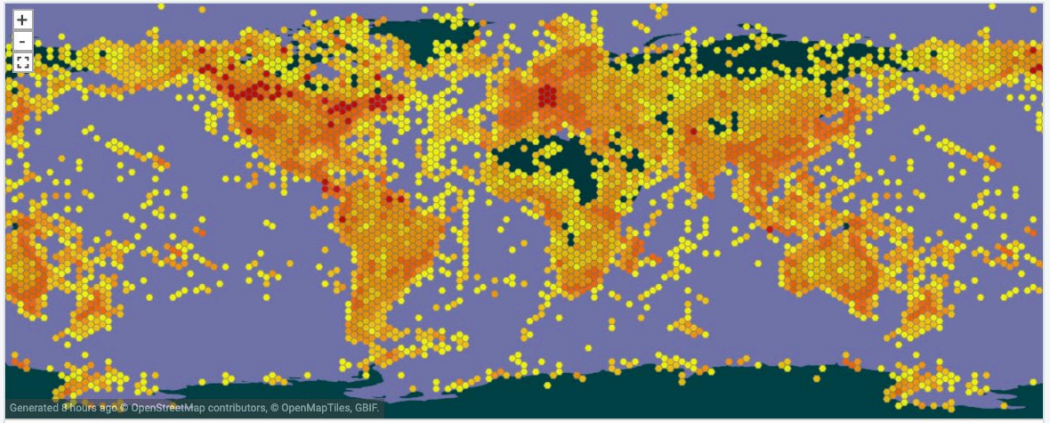
DATASET METRICS ACTIVITY DOWNLOAD 4,761,734 OCCURRENCES 2 CITATIONS

This dataset contains INSDC sequence records not associated with environmental sample identifiers or host organisms. The dataset is prepared periodically using the public ENA API (https://www.ebi.ac.uk/ena/portal/api/) by querying data with search parameters: environmental_sample=False & host="" EMBL-EBI also publishes other records in separate datasets (https://www.gbif.org/publisher/ada9d123-ddb4-467d-8891-806ea8d94230). The data was then processed as follows: 1. Human sequences were excluded.... More

Publication date: September 9, 2021
Metadata last modified: September 13, 2021
Hosted by: GBIF Secretariat
Licence: CC BY 4.0
How to cite DOI 10.15468/sbmztx

4,761,734 Occurrences
99.9% With taxon match
53% With coordinates
71% With year

2,506,142 GEOREFERENCED RECORDS



Any year 1818 - 2021 EXPLORE

NEWS | 14 SEPTEMBER 2021

New guide published on sharing DNA-derived occurrence data

Digital documentation offers practical how-to aimed at extending the utility of genomic and metagenomic data

Velvet shank (*Flammulina velutipes*), Kursk, Russian Federation. Photo 2020 Oleg Ryzhkov via iNaturalist research-grade observations, licensed under CC BY-NC 4.0.

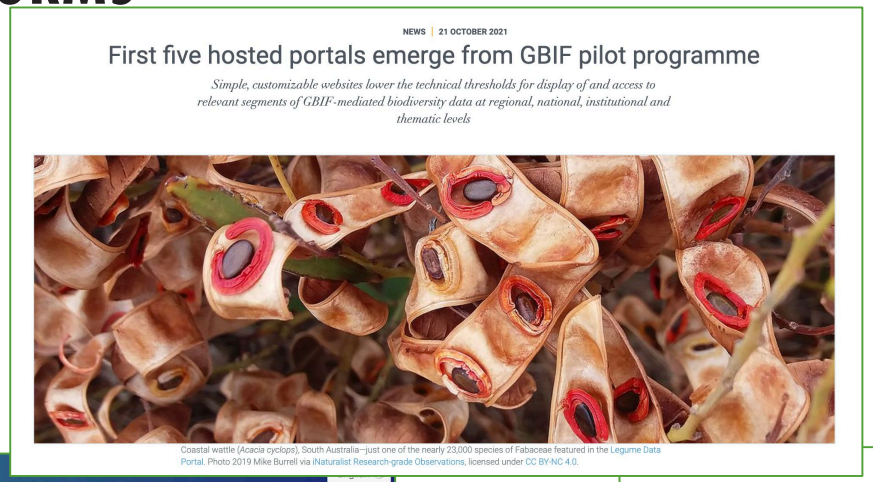
The GBIF Secretariat has released a new guide, ***Publishing DNA-derived data through biodiversity data platforms***, aimed at providing holders of genomic and metagenomic information with practical considerations for resurfacing DNA-derived occurrences in biodiversity data platforms like GBIF.org.

An expert team of co-authors from Australia, Estonia, Norway, Sweden and Denmark has described principles and practices for holders of DNA-based data interested in increasing its usability beyond its initial "omics" contexts.

https://www.gbif.org/news/6Kc735P6jWueKIw3WIdoYP/new-guide-published-on-sharing-dna-derived-occurrence-data

GBIF

GBIF DEVELOPMENT AREA : HOSTED PORTALS FOR PARTICIPANT NODESHARING INFRASTRUCTURE FOR BIODIVERSITY DATA PLATFORMS

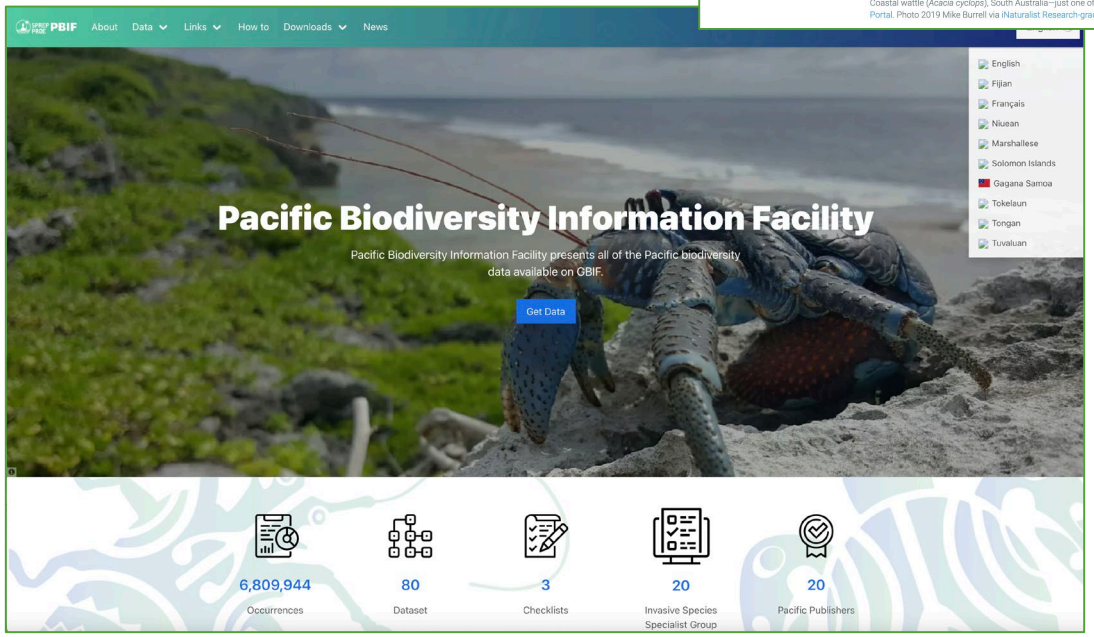


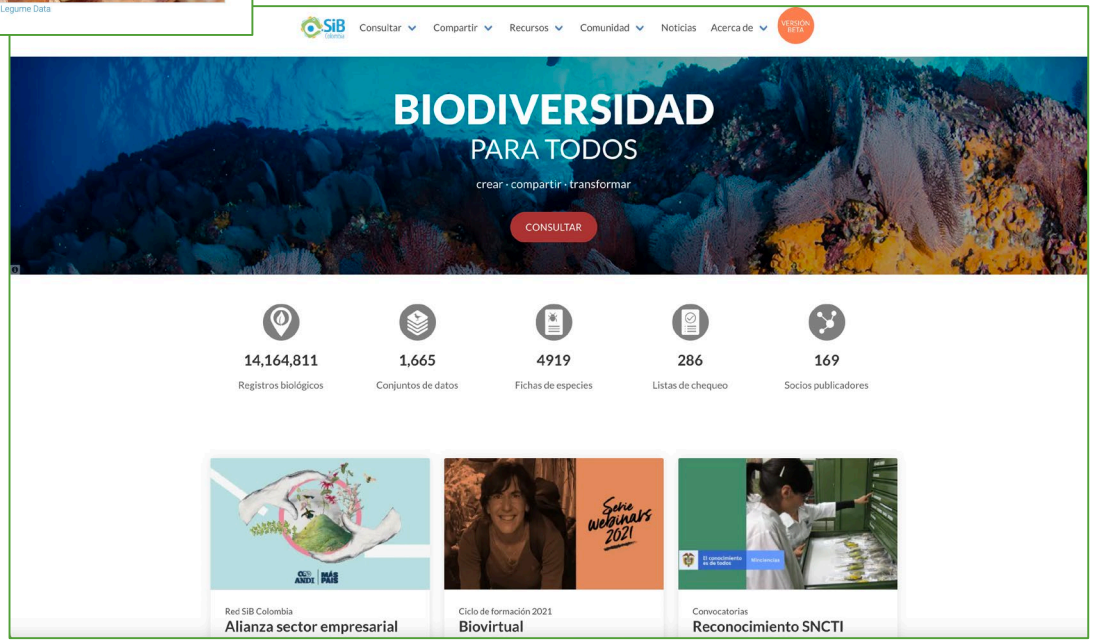
NEWS | 21 OCTOBER 2021

First five hosted portals emerge from GBIF pilot programme

Simple, customizable websites lower the technical thresholds for display of and access to relevant segments of GBIF-mediated biodiversity data at regional, national, institutional and thematic levels

Coastal wattle (*Acacia cyclops*), South Australia—just one of the nearly 23,000 species of Fabaceae featured in the Legume Data Portal. Photo 2019 Mike Burrell via iNaturalist Research-grade Observations, licensed under CC BY-NC 4.0.





https://www.gbif.org/news/6RG9WSU3knIxyhcDUBQTJY/first-five-hosted-portals-emerge-from-gbif-pilot-programme

THANK YOU!

thirsch@gbif.org

GBIF

APPLYING MOBILIZED DATA IN RESEARCHDDRESSING POLICY NEEDS THROUGH DATA MOBILIZATION

PROJECT | CLOSED

Deploying acoustic data to fill gaps in bat biodiversity information for Southeast Asia

1 May 2019 - 30 April 2020 € 12,001

ABOUT NEWS & EVENTS DATASETS

Indian Barbastelle (Barbastella darjelingensis) from Mefeng, Taiwan. Photo by Joe Chun-Chia Huang (CC BY-NC 4.0)

With 380 species, bats make up nearly 40 per cent of Southeast Asia's mammal species, yet the group has received limited attention in biodiversity studies. To redress this, the Southeast Asian Bat Conservation Research Unit (SEABCRU) developed a database for bat locality data across SE Asia, designed to push new records to GBIF. The database has about 40,000 records including cleaned and manually georeferenced GBIF records, data from literature, museums and field notes.

DOWNLOAD AS TSV

Cave bat diversity of Bohol Island, Philippines — Occurrence dataset

Bat diversity collected from 62 caves in Bohol Islands of Philippines by trapping. This is part of KP's dissertation project.

Published by Southeast Asian Bat Conservation Research Unit

7,655 occurrences | 1 citation

Bats of Buton Island SE Sulawesi 2018 Occurrence Dataset — Occurrence dataset

Bat diversity of Buton Island in South East Sulawesi, Indoneisa

Published by Southeast Asian Bat Conservation Research Unit

3,188 occurrences | 1 citation

Bats of Bukit Barisan Selatan Landscape, Sumatra, Indonesia — Occurrence dataset

Bat diversity of Bukit Barisan Selatan National Park and surrounding robusta coffee farms in southwestern Sumatra, Indonesia

Published by Southeast Asian Bat Conservation Research Unit

1,776 occurrences | 8 citations

Bats in the mountain areas of Taiwan — Occurrence dataset

Bat diversity from the mountain areas in Taiwan

Published by Southeast Asian Bat Conservation Research Unit

1,518 occurrences | 5 citations

Hungarian Natural History Museum Asian Bat Database — Occurrence dataset

bat diversity data collected from SE Asia and SW China by Hungarian Natural History Museum

Published by Southeast Asian Bat Conservation Research Unit

594 occurrences | 11 citations

Insectivorous Bats of Gunung Mulu National Park, Malaysia — Occurrence dataset

Insectivorous Bats of Gunung Mulu National Park, Malaysia

Published by Southeast Asian Bat Conservation Research Unit

650 occurrences | 8 citations

Insectivorous bats of Bako National Park and Wind Cave Nature Reserve, Malaysia — Occurrence dataset

Insectivorous bats of Bako National Park and Wind Cave Nature Reserve, Malaysia

Published by Southeast Asian Bat Conservation Research Unit

134 occurrences | 7 citations

Cell

ARTICLE | VOLUME 184, ISSUE 17, P4380-4391.E14, AUGUST 19, 2021

Identification of novel bat coronaviruses sheds light on the evolutionary origins of SARS-CoV-2 and related viruses

Hong Zhou [9] • Jingkai Ji [9] • Xing Chen [9] • ... Alice C. Hughes • Edward C. Holmes • Weifeng Shi [10] • Show all authors • Show footnotes

Published: June 09, 2021 • DOI: https://doi.org/10.1016/j.cell.2021.06.008 • Check for updates

https://www.gbif.org/project/3PMwZjKycuPnEo5FUDY99S/deploying-acoustic-data-to-fill-gaps-in-bat-biodiversity-information-for-southeast-asia

GBIF