



**GBIF**

Global Biodiversity  
Information Facility



*Neurothemis fulvia* Drury, 1773



*Hemidactylus platyurus*  
(Schneider, 1797)



*Halcyon smyrnensis* (Linnaeus, 1758)



*Trithemis aurora* Burmeister, 1839



*Deliastrea descombesi* (Boisduval, 1836)



*Monticola solitarius* (Linnaeus, 1758)



*Lampides boeticus* (Linnaeus, 1767)



*Tirumala septentrionalis* (Butler)



*Papilio polytes romulus*



*Neptis hylas* Linnaeus, 1758



*Alcedo atthis* (Linnaeus, 1758)



*Pandanus amaryllifolius*  
Roxb. ex Lindl.



*Parantica aglea* Cramer, 1781



*Danaus genutia* Cramer, 1779



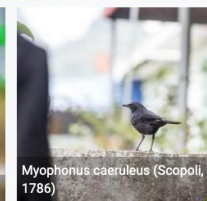
*Jamides celeno* (Cramer, 1775)



*Argiope dang* Jäger &  
Praxaysombath, 2009



*Centropus sinensis* (Stephens, 1815)



*Myophonus caeruleus* (Scopoli,  
1786)

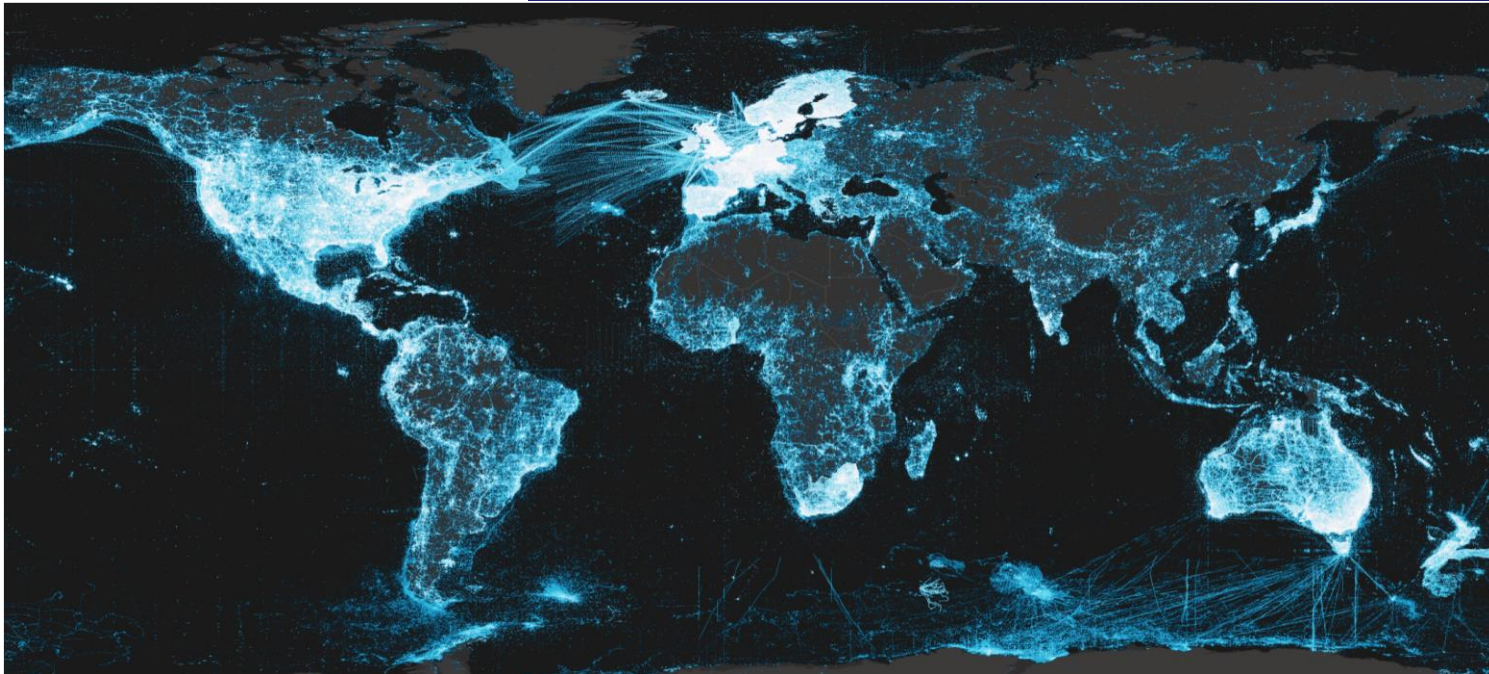


*Ideopsis similis* Linnaeus, 1758

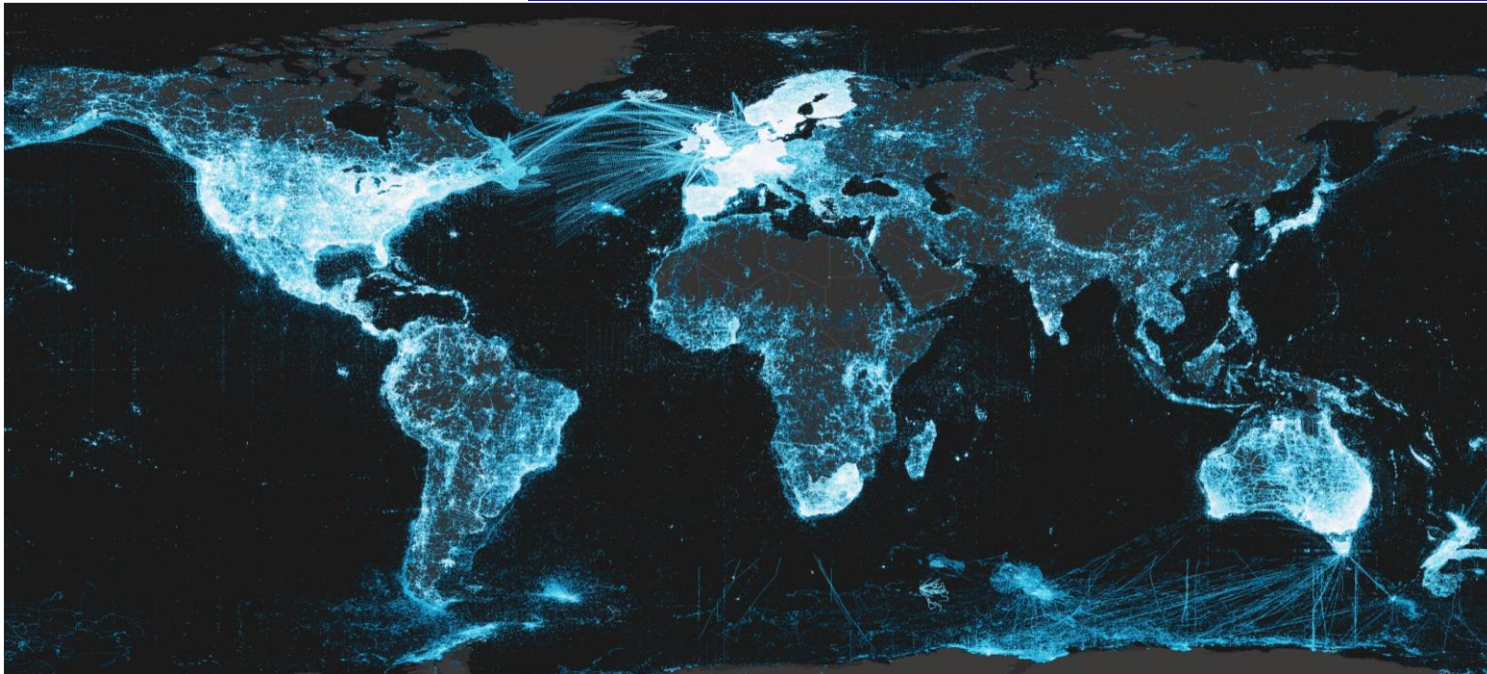
# Introduction to GBIF and BIFA

*Tim Hirsch, Deputy Director, GBIF*









# GBIF ORIGINS



**1999:** recommendation of Biodiversity Informatics Subgroup of OECD Megascience Forum

*“An international mechanism is needed to make biodiversity data and information accessible worldwide”*

**2001:** GBIF Memorandum of Understanding opened for signature

**2003:** Secretariat established in Copenhagen under country host agreement with Denmark

**2004, 2008, 2012:** MoU renewed, last version NOT time limited



GBIF | Global Biodiversity Information Facility

# Free and open access to biodiversity data

OCCURRENCES

SPECIES

DATASETS

PUBLISHERS

RESOURCES

Search



WHAT IS GBIF?

ABOUT GBIF VIET NAM

Occurrence records  
**1,328,743,941**

Datasets  
**45,357**

Publishing institutions  
**1,421**

Peer-reviewed papers using data  
**3,732**



News

**BIFA funds nine Asian data mobilization projects**  
26 June 2019



Data use

**Minimizing biodiversity loss in the Brazilian Cerrado**  
2 July 2019



News

**2019 GBIF Ebbe Nielsen Challenge seeks open-data innovations for biodiversity**  
Deadline: 1 August 2019



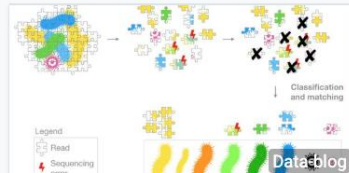
News

**Data mobilization and capacity building essential to address global biodiversity crisis**  
6 May 2019



Guidance

**Establishing a national biodiversity information facility in Chile**  
Experiences of setting up and running a node in Latin America



Data-blog

**Blog post: What you need to know before analyzing sequenced-based data on GBIF**  
26 April 2019



Taxonomy

**Nidirana yaoica sp. nov.**  
Description of a new species of Music frogs (Anura, Ranidae, Nidirana) from Mt Dayao, southern China



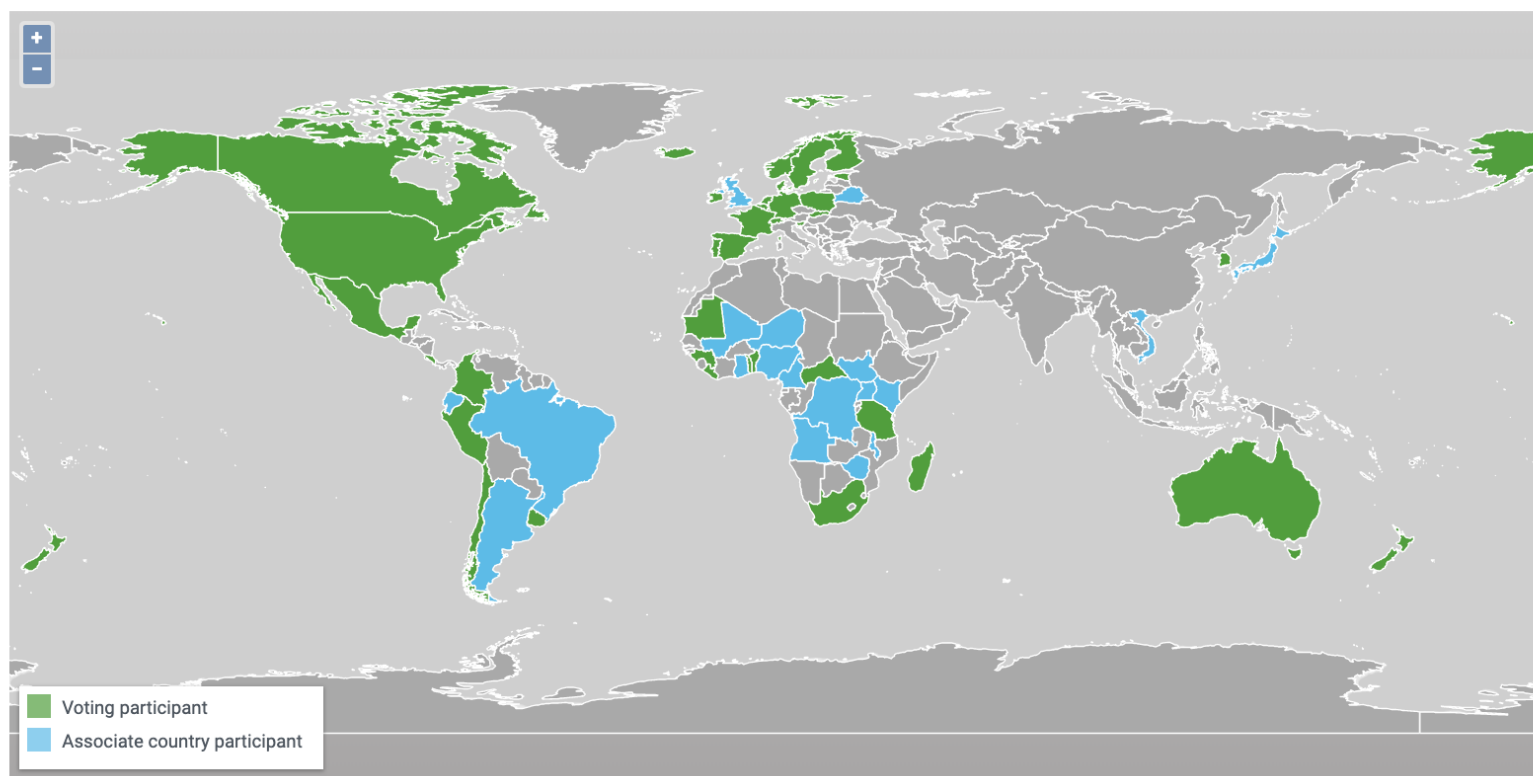
Tool

**The GBIF network**  
Dozens of countries and organizations working together to make species data findable, accessible, interoperable and reusable.

# CURRENT NETWORK

## The GBIF Network

GLOBAL AFRICA ASIA EUROPE LATIN AMERICA AND THE CARIBBEAN NORTH AMERICA OCEANIA PARTICIPANT ORGANISATIONS GBIF AFFILIATES



39 VOTING PARTICIPANTS

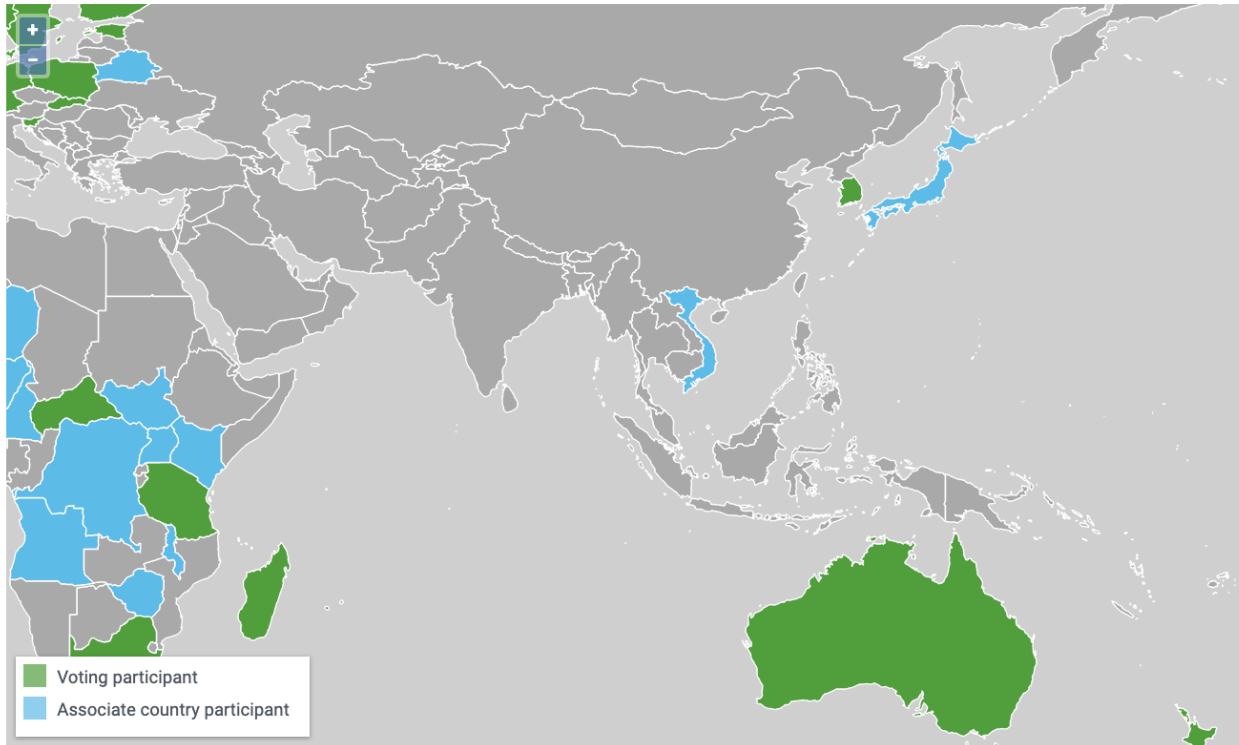
19 ASSOCIATE COUNTRY PARTICIPANTS

38 OTHER ASSOCIATE PARTICIPANTS

1,421 PUBLISHERS

# The GBIF Network

GLOBAL AFRICA ASIA EUROPE LATIN AMERICA AND THE CARIBBEAN NORTH AMERICA OCEANIA PARTICIPANT ORGANISATIONS GBIF AFFILI



1 VOTING PARTICIPANT 2 ASSOCIATE COUNTRY PARTICIPANTS 6 OTHER ASSOCIATE PARTICIPANTS 64 PUBLISHERS 15,934,153 OCCURRENCES

‘Other’ associate participants:

- ASEAN Centre for Biodiversity
- Chinese Academy of Scientists
- Chinese Taipei (TaiBIF)
- ICIMOD

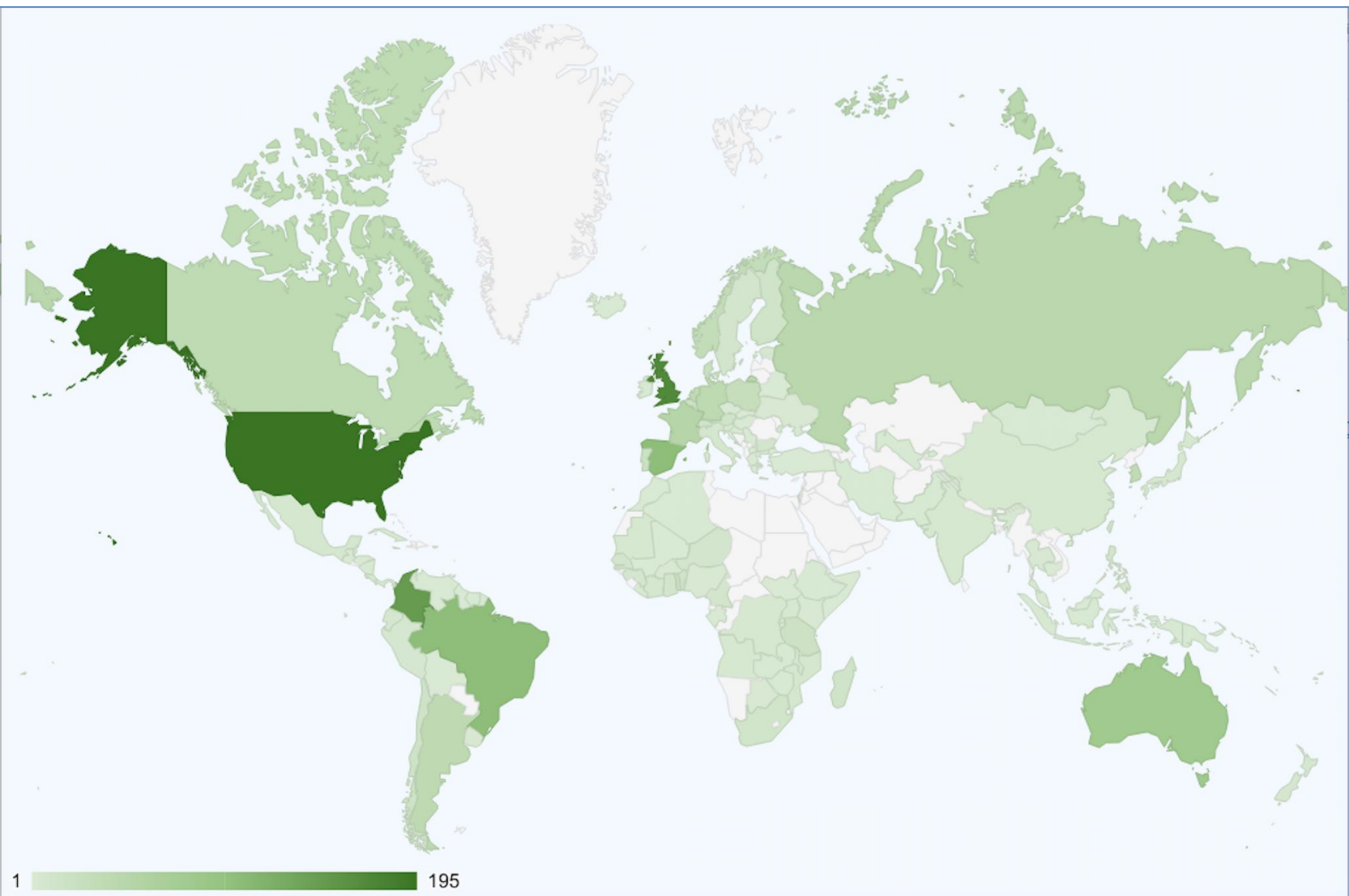
Observer countries:

- India
- Indonesia
- Pakistan
- Philippines

Additional data publishers from:

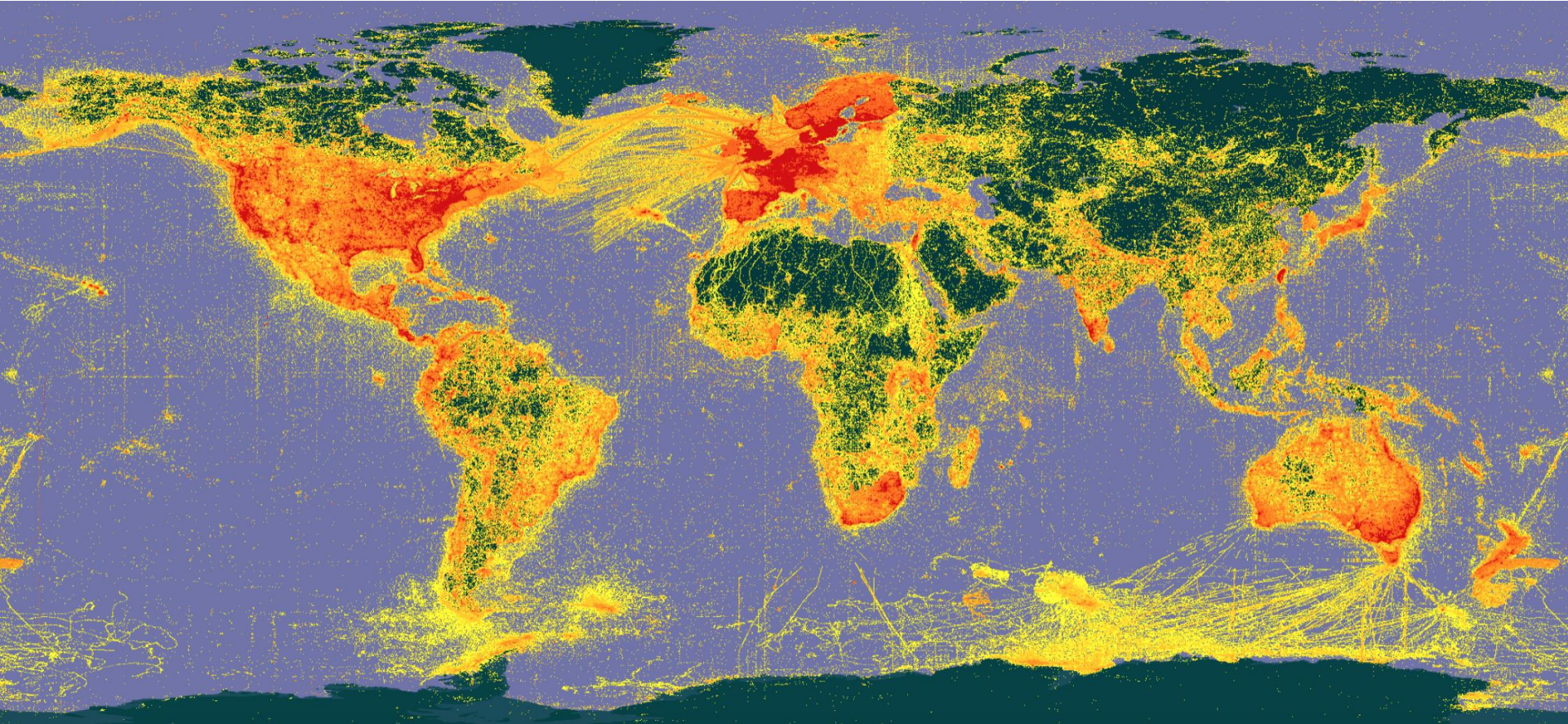
- Cambodia
- Nepal
- Thailand

# GBIF DATA PUBLISHERS





# DATA DENSITY IN GBIF.ORG



**Over 1.3 billion records on where species have lived, and when they lived there**



# SOME SOURCES OF DATA IN GBIF.ORG

Specimens in natural history collections



Monitoring, surveys



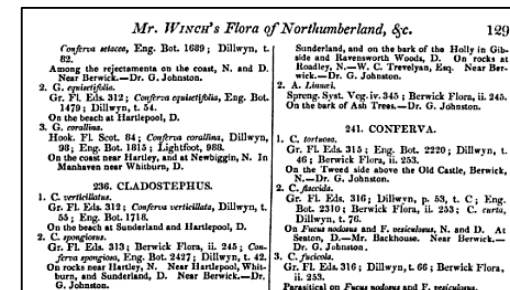
Citizens' observations



Data extracted from literature

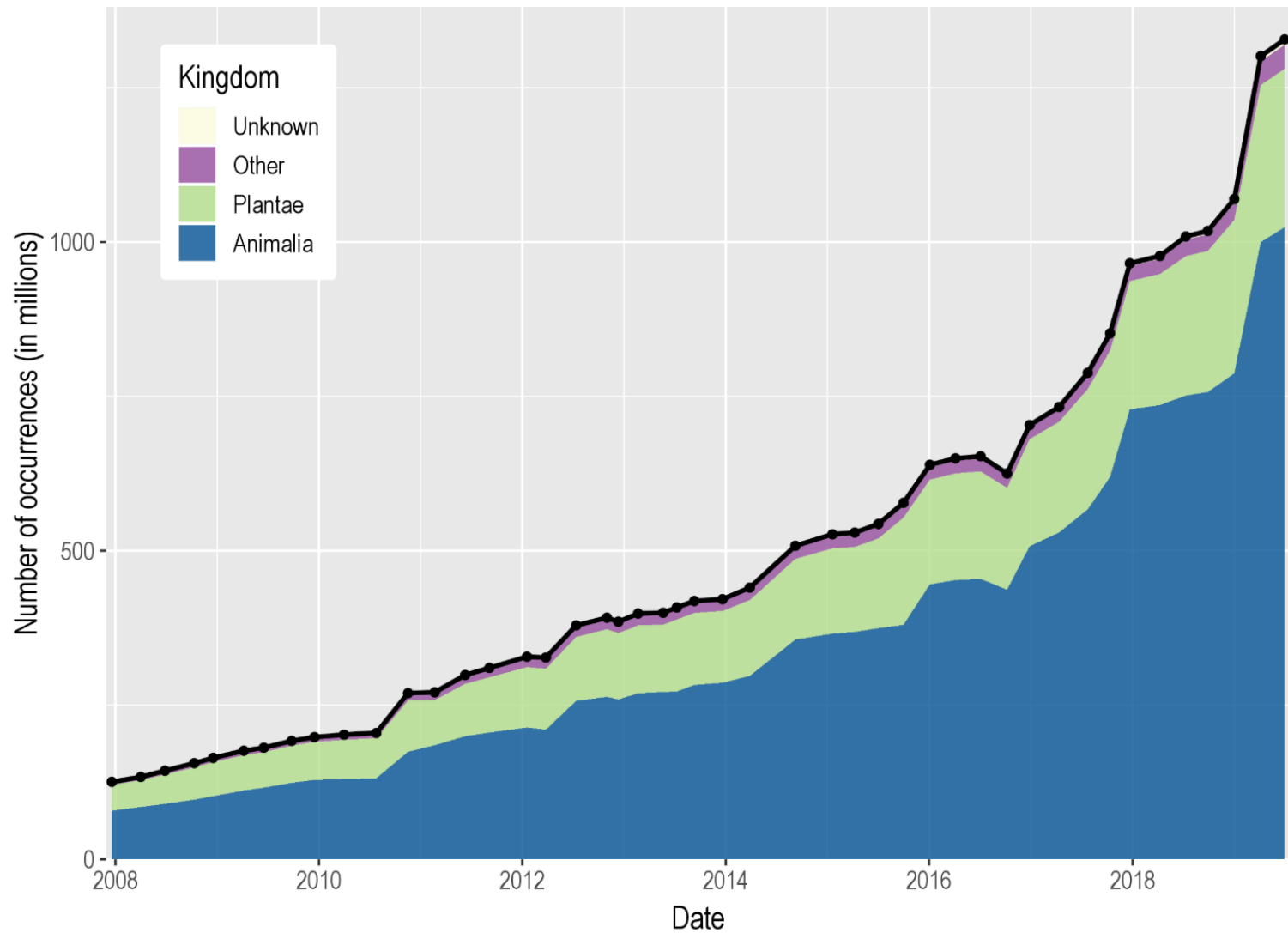


*Nidirana yaoica* sp. nov.  
Description of a new species of Music frogs  
(Anura, Ranidae, Nidirana) from Mt Dayao,  
southern China



# DATA PUBLISHED THROUGH GBIF.ORG

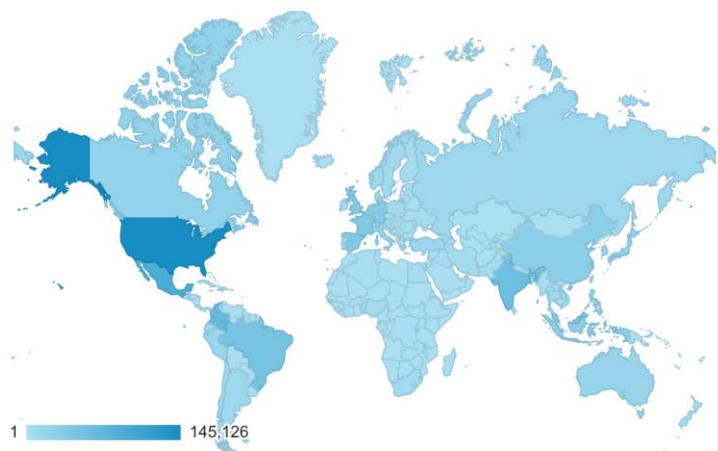
Species occurrence records accessible through GBIF over time





# GBIF.ORG WEB TRAFFIC

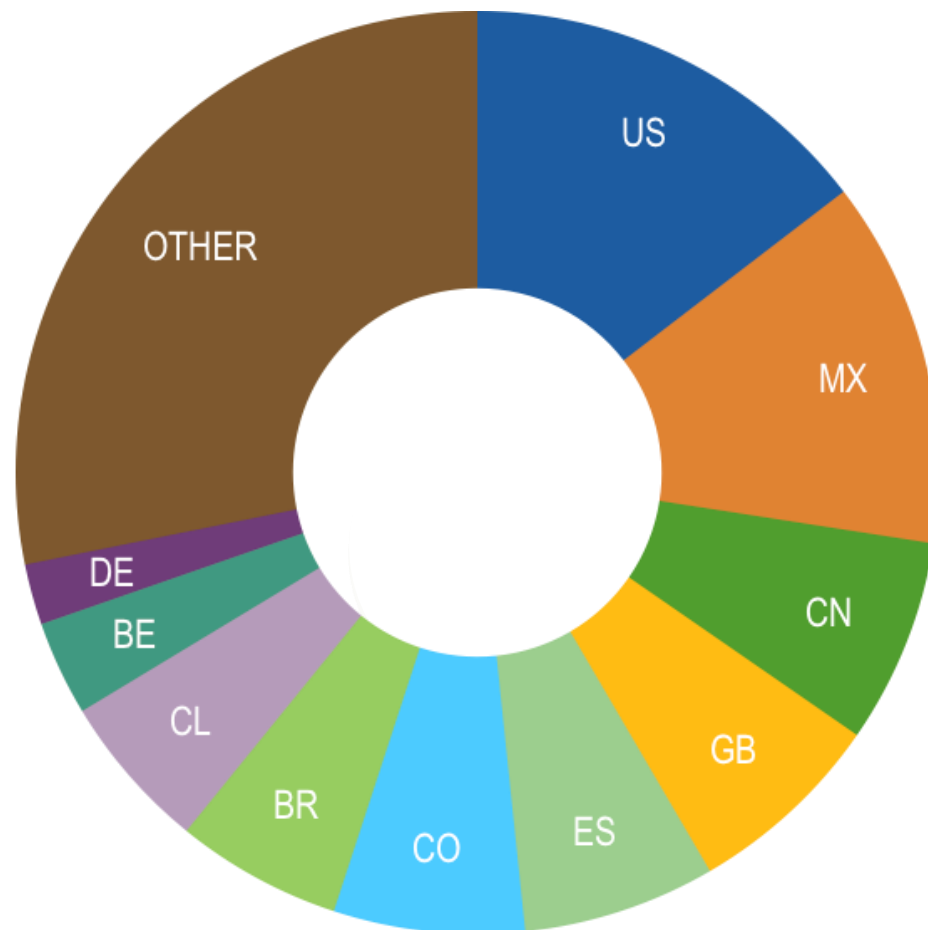
## 8 JULY 2018– 7 JULY 2019



		Sessions ? ↓	Users ?
		2,022,573 % of Total: 100.00% (2,022,573)	1,106,692 % of Total: 100.00% (1,106,692)
1.	United States	228,551 (11.30%)	145,126 (12.85%)
2.	Mexico	143,082 (7.07%)	86,181 (7.63%)
3.	India	114,606 (5.67%)	55,611 (4.92%)
4.	Colombia	111,482 (5.51%)	65,045 (5.76%)
5.	Brazil	86,765 (4.29%)	47,220 (4.18%)
6.	Spain	77,295 (3.82%)	38,771 (3.43%)
7.	France	69,855 (3.45%)	39,134 (3.46%)
8.	United Kingdom	68,096 (3.37%)	36,161 (3.20%)
9.	Germany	63,104 (3.12%)	33,858 (3.00%)
10.	China	55,831 (2.76%)	28,031 (2.48%)
11.	Indonesia	52,268 (2.58%)	27,590 (2.44%)
12.	Malaysia	47,603 (2.35%)	42,499 (3.76%)

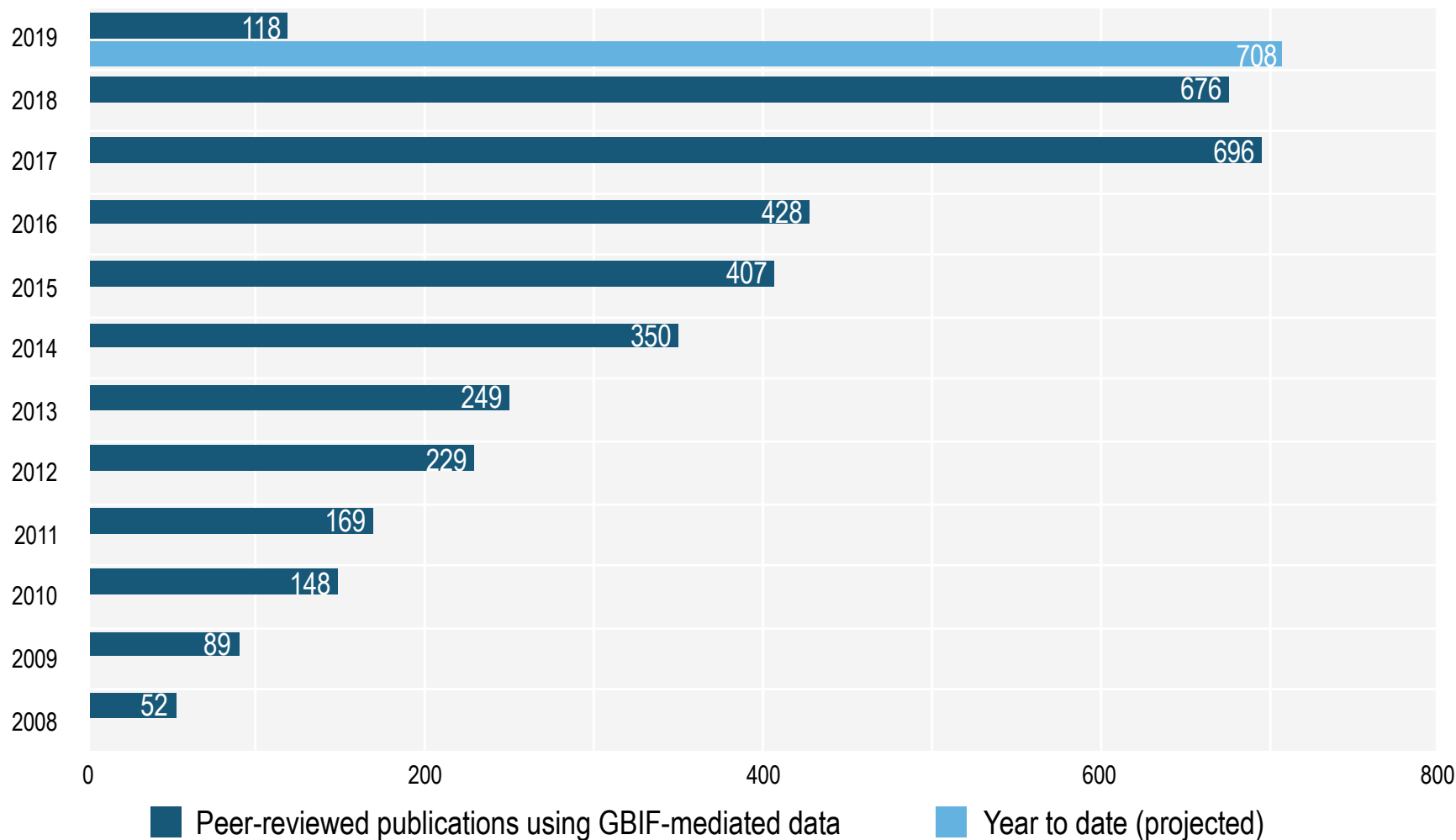
## DATA DOWNLOAD REQUESTS BY COUNTRY, 2019

	Country	Downloads	2018 rank
1	United States	3,052	1
2	Mexico	2,694	2
3	China	1,501	5
4	United Kingdom	1,456	8
5	Spain	1,413	9
6	Colombia	1,400	6
7	Brazil	1,217	3
8	Chile	1,151	10
9	Belgium	696	18
10	Germany	444	7

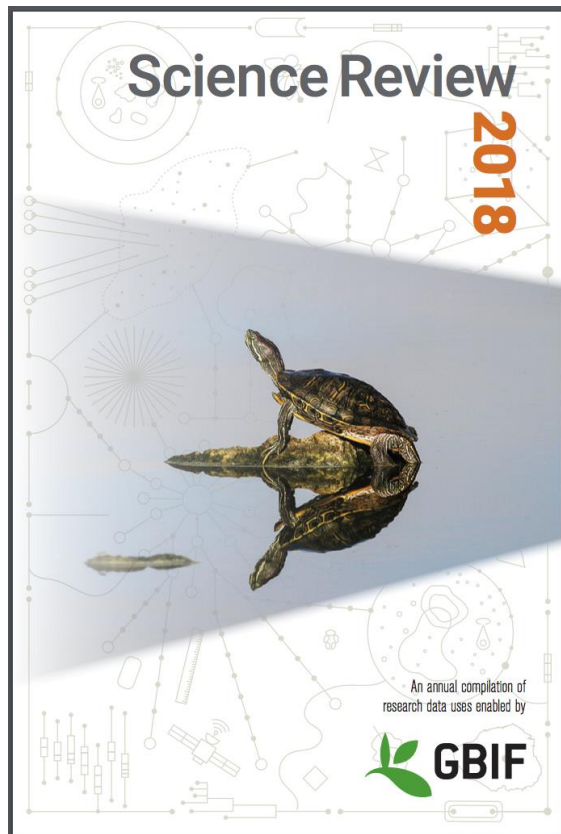


# Peer-reviewed publications using GBIF-mediated data

28 February 2019







Invasive alien species

Climate change

Species conservation and protected areas

Biodiversity and human health

Food, farming and biofuels

Advancing biodiversity science

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

<https://www.gbif.org/resource/search?contentType=dataUse>

# DATA USE EXAMPLE: CLIMATE CHANGE

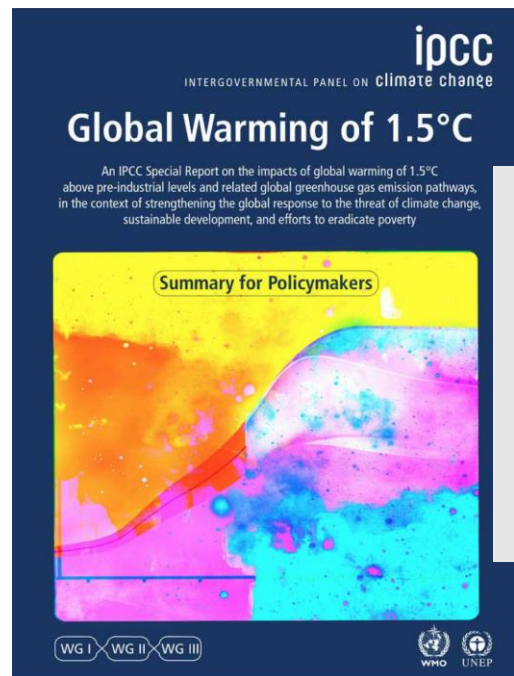


## The projected effect on insects, vertebrates, and plants of limiting global warming to 1.5°C rather than 2°C

R. Warren<sup>1,\*</sup>, J. Price<sup>1</sup>, E. Graham<sup>2</sup>, N. Forstenhaeusler<sup>1</sup>, J. VanDerWal<sup>2</sup>

+ See all authors and affiliations

*Science* 18 May 2018:  
Vol. 360, Issue 6390, pp. 791-795  
DOI: 10.1126/science.aar3646



### One and a half degrees on biodiversity


Insects are the most diverse group of animals on Earth and are ubiquitous in terrestrial food webs. We have little information about their fate in a changing climate; data are scant for insects compared with other groups of organisms. Warren *et al.* performed a global-scale analysis of the effects of climate change on insect distribution (see the Perspective by Midgley). For vertebrates and plants, the number of species losing more than half their geographic range by 2100 is halved when warming is limited to 1.5°C, compared with projected losses at 2°C. But for insects, the number is reduced by two-thirds.

# DATA USE EXAMPLE: CONSERVATION PRIORITIES

nature  
ecology & evolution

Article | Published: 05 November 2018

## A global test of ecoregions

Jeffrey R. Smith , Andrew D. Letten, Po-Ju Ke, Christopher B. Anderson, J. Nicholas Hendershot, Manpreet K. Dhami, Glade A. Dlott, Tess N. Grainger, Meghan E. Howard, Beth M. L. Morrison, Devin Routh, Priscilla A. San Juan, Harold A. Mooney, Erin A. Mordecai, Thomas W. Crowther & Gretchen C. Daily

*Nature Ecology & Evolution* **2**, 1889–1896 (2018)

### Data availability

All data used in this study are publicly available from either [www.gbif.org](http://www.gbif.org) or [www.fia.fs.fed.us](http://www.fia.fs.fed.us)

Used more than 200 million records of plants, animals and fungi from GBIF.org to present ‘compelling evidence’ that ecoregions delineate terrestrial biodiversity patterns, guiding conservation priorities to secure Earth’s life support systems

<https://doi.org/10.1038/s41559-018-0709-x>



# INVASIVE ALIEN SPECIES DATA – NATIONAL LISTS

CHECKLIST DATASET | REGISTERED NOVEMBER 18, 2018

## Global Register of Introduced and Invasive Species- Vietnam

Published by [Invasive Species Specialist Group ISSG](#)

✉ Kieu Anh • Nguyen Dinh Tao • Pham Quang Thu • Lian Jenna Wong • Shyama Pagad

TAXONOMY

CHECKLIST DATASET | REGISTERED NOVEMBER 18, 2018

## Global Register of Introduced and Invasive Species- Singapore

Published by [Invasive Species Specialist Group ISSG](#)

✉ Chong Kwek Yan • Darren Yeo Chong Jinn Yeo Chong Jinn • Cheryl Chia • Hugh Tan Tiang Wah • Kelvin Lim Kok Peng • Tan Heok Hui • Tan Koh Siang • Lian Jenna Wong • Shyama Pagad

CHECKLIST DATASET | REGISTERED SEPTEMBER 28, 2017

## Global Register of Introduced and Invasive Species- Nepal

Published by [Invasive Species Specialist Group ISSG](#)

✉ Bharat Babu Shrestha • Prem Bahadur Budha • Lian Jenna Wong • Shyama Pagad

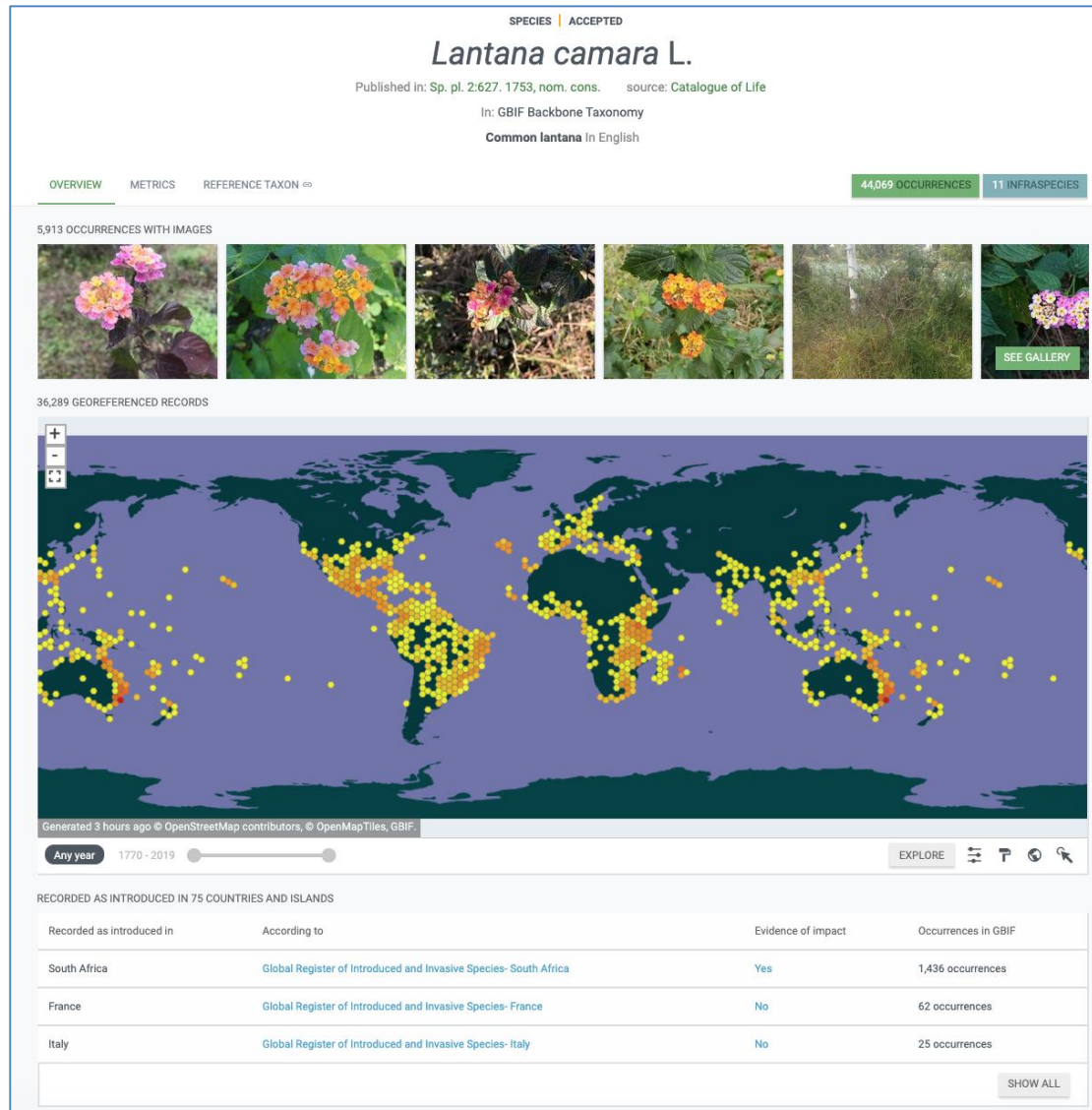
CHECKLIST DATASET | REGISTERED OCTOBER 15, 2018

## Global Register of Introduced and Invasive Species- Cambodia

Published by [Invasive Species Specialist Group ISSG](#)

✉ Samreth Vanna • Chhang Phourin • Chheng Phen • Lian Jenna Wong • Shyama Pagad

# INVASIVE ALIEN SPECIES DATA



# INCORPORATING EVIDENCE FROM DNA SEQUENCING

NEWS | 29 AUGUST 2018

## Adding sequence-based identifiers to backbone taxonomy reveals 'dark taxa' fungi

*Pilot project with northern European researchers enables inclusion of non-Linnaean 'species hypotheses' aimed at advancing scientific understanding of mycology and functional*

NEWS | 18 DECEMBER 2018

## Biodiversity infrastructures to crosslink metagenomics and species occurrence data

*Deepening collaboration between GBIF and EMBL-EBI to address taxonomic bias and reduce barriers between big, FAIR and open data for biodiversity and metagenomics*

PUBLISHER | SINCE MARCH 13, 2019

MGnify

ABOUT

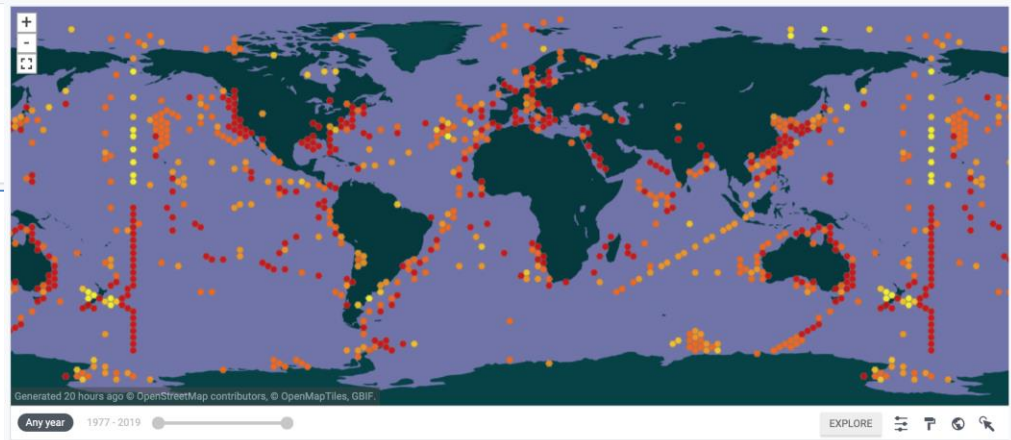
HOME PAGE

13,285,109 OCCURRENCES 295 DATASETS 1 CITATION

OCCURRENCES PER KINGDOM








12,659,185 GEOREFERENCED RECORDS



# BIODIVERSITY INFORMATION FUND FOR ASIA (BIFA)

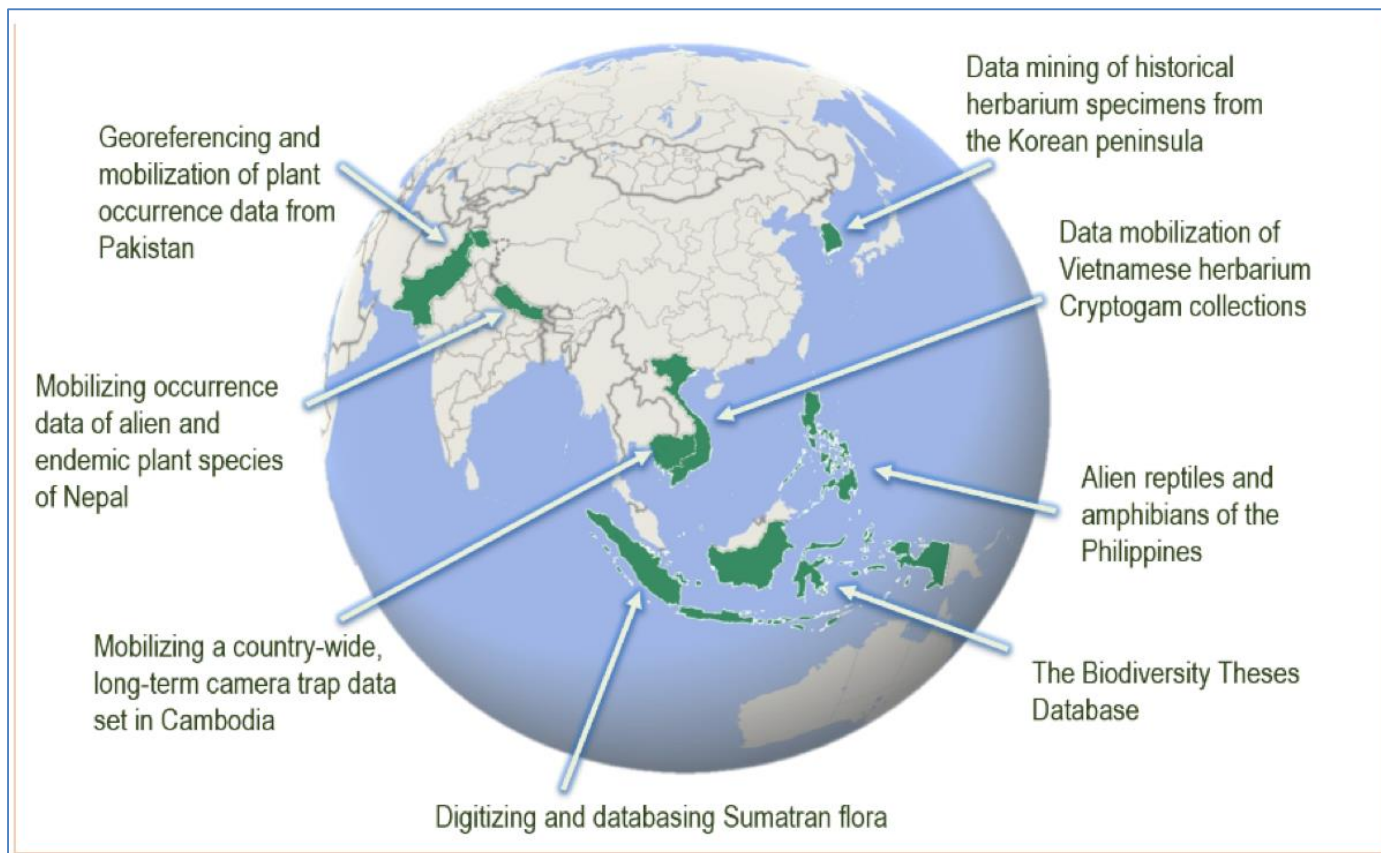
- Supplementary funding from Ministry of Environment, Govt of Japan
- Objective to support biodiversity data mobilization and use in Asia
- 4 calls for proposals since 2016

	Strengthening GBIF Philippines	April 30, 2016	January 31, 2017	€15,000	€7,550	Closed	Philippines	BIFA 2015
	Mobilizing biodiversity data from ASEAN protected areas	April 30, 2016	August 10, 2016	€35,595	€35,000	Closed	Philippines	BIFA 2015
	Biodiversity informatics cookbook	May 1, 2016	June 30, 2017	€33,000	€38,000	Closed	Taiwan	BIFA 2015
	Development of the biodiversity database system in Vietnam	April 5, 2016	October 31, 2016	€22,640	€11,700	Closed	Viet Nam	BIFA 2015
	Checklist of mammals in the southwestern Mongolian-Manchurian Ecoregion	April 1, 2017	March 31, 2018	€3,600	€3,420	In progress	Mongolia	BIFA 2016
	Filling a long-standing data gap for birds in the Central Highlands of India	April 1, 2017	March 31, 2018	€9,996	€9,688	In progress	India	BIFA 2016



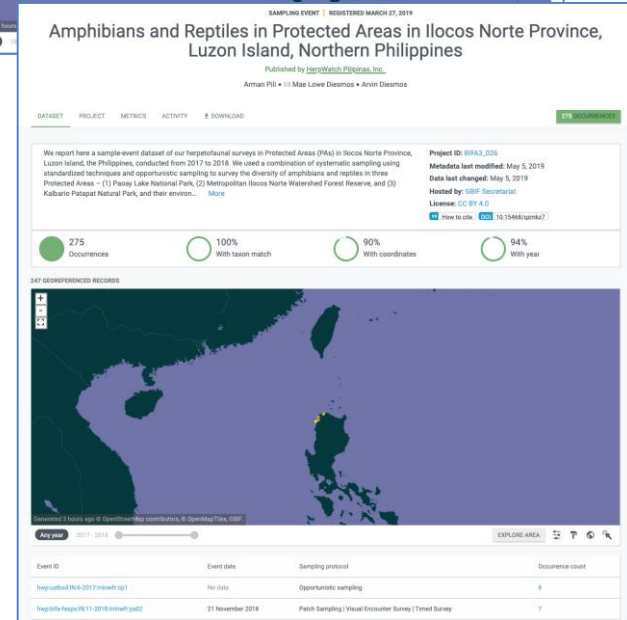
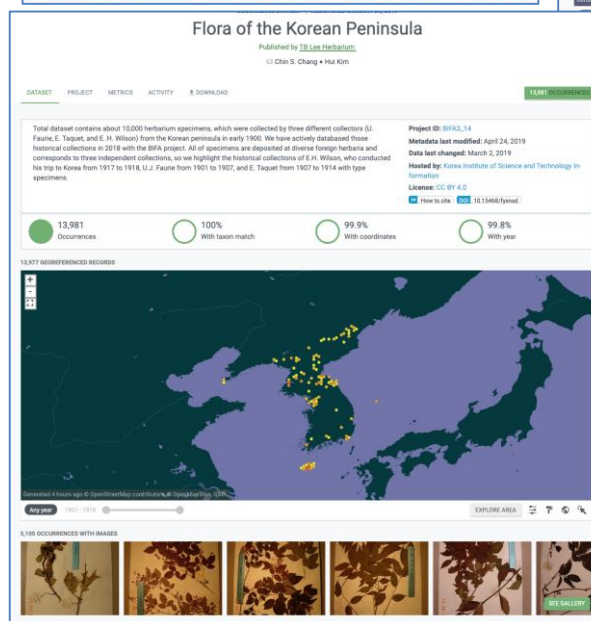
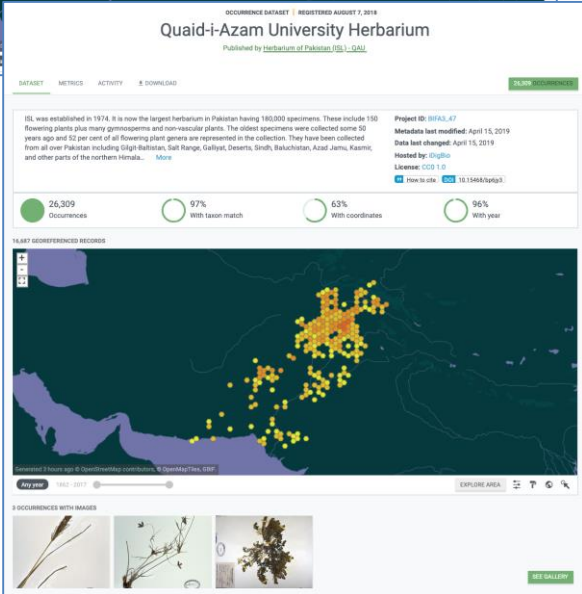
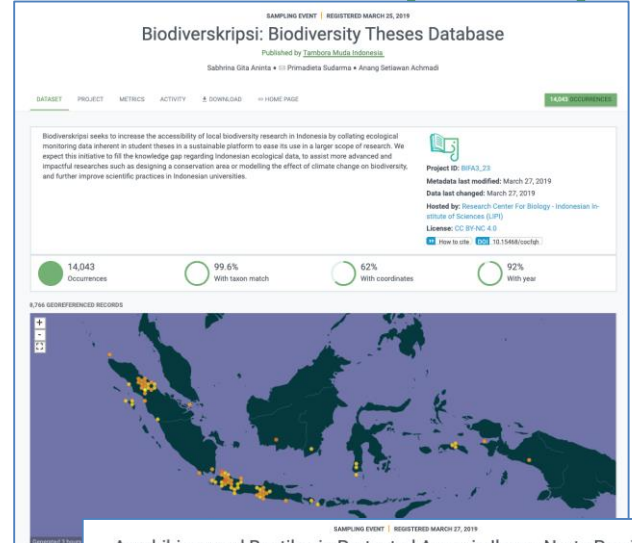
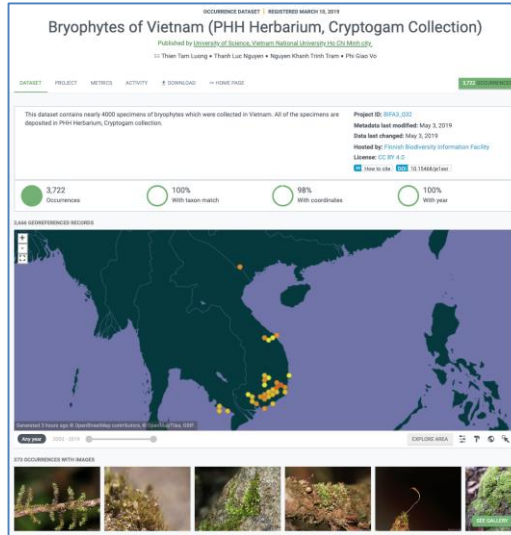
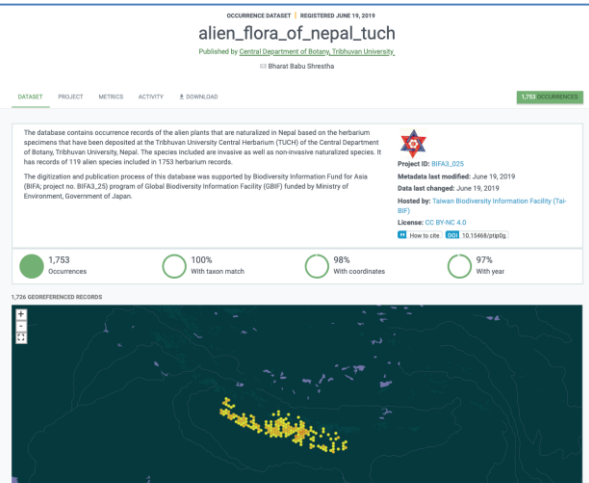
# BIODIVERSITY INFORMATION FUND FOR ASIA (BIFA)

## BIFA 3 projects



**Ministry of the Environment**  
環境省 Government of Japan

# BIODIVERSITY INFORMATION FUND FOR ASIA (BIFA)



Ministry of the Environment  
Government of Japan

<https://gbif.org/bifa>



# BIODIVERSITY INFORMATION FUND FOR ASIA (BIFA)

## BIFA 4 project call:

- 38 in-scope concept notes from 16 Asian countries/areas
- 17 invited to submit full proposals, 17 submitted, 9 selected
- 5<sup>th</sup> round of BIFA confirmed by MoE-J

## 2019 BIFA project grantees

<i>Project</i>	<i>Country of main contact</i>	<i>Funding from BIFA</i>	<i>Cofunding</i>
Major historical collections from North Korea	Republic of Korea	€15,000	€17,442
Sumatran flora (part II)	Indonesia	€14,881	€8,086
Using acoustics to fill the gaps of bat biodiversity information for Southeast Asia	Malaysia	€14,838	€23,935
Indonesian butterfly collections at the Museum Zoologi Bogor	Indonesia	€14,700	€13,900
Expanding the value and reach of plant data mobilization in Pakistan	Pakistan	€15,000	€16,714
Butterflies of Singapore & Peninsular Malaysia	Singapore	€14,728	€14,728
Reptile and amphibian specimens at the Bombay Natural History Society	India	€14,006	€14,828
Plant species occurrences and sampling-event data from Northern Lebanon	Lebanon	€2,000	€4,000
Vietnamese herbarium cryptogam collections	Viet Nam	€14,990	€10,070



**Ministry of the Environment**  
Government of Japan

THANK YOU VERY MUCH!

[thirsch@gbif.org](mailto:thirsch@gbif.org)