

Introduction to GBIF participation in Asia and the Biodiversity Information Fund for Asia (BIFA) programme

Tim Hirsch | Deputy Director



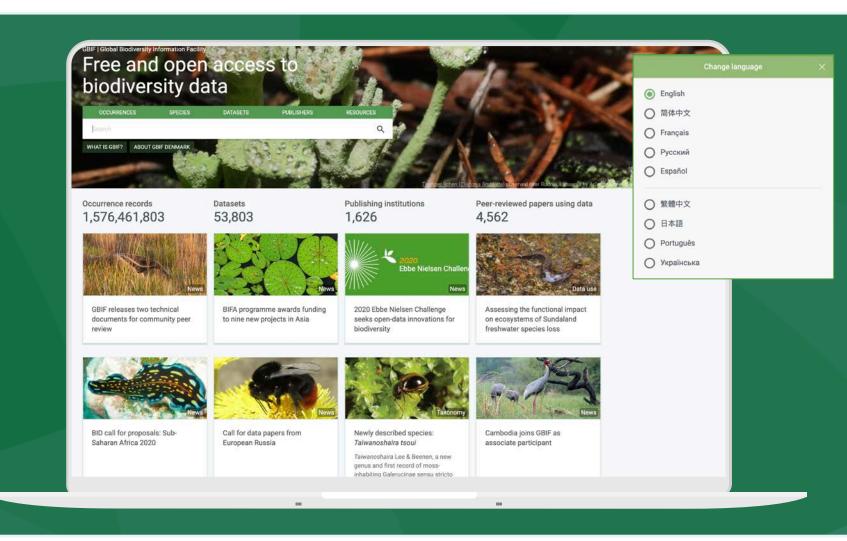
#### WHAT IS GBIF?

Intergovernmental network and research infrastructure

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

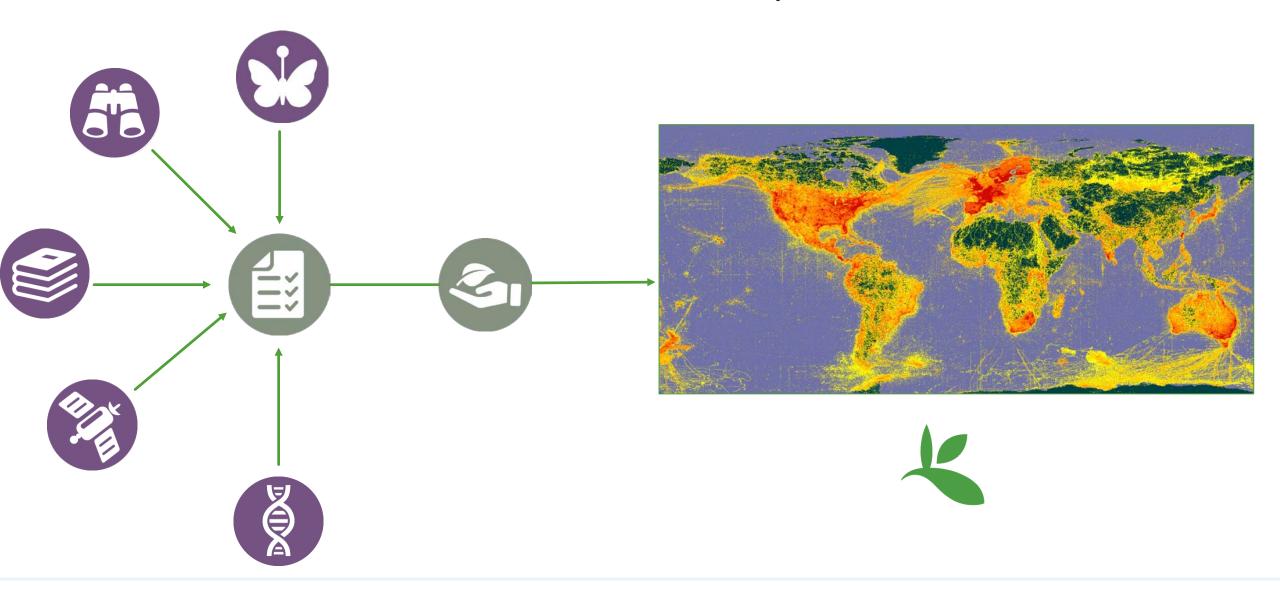
Voluntary collaboration through Memorandum of Understanding

Participant nodes, Secretariat in Copenhagen, DK



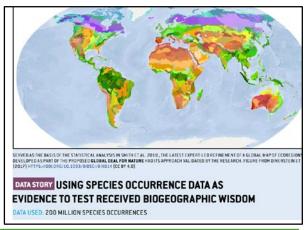


## A WINDOW ON EVIDENCE ABOUT WHERE SPECIES HAVE LIVED, AND WHEN

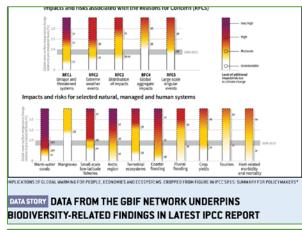




#### A DATA RESOURCE TO SUPPORT RESEARCH AND SUSTAINABLE DEVELOPMENT









#### Conservation

- Protected areas
- Threatened species
- Invasive species risk

## **Food Security**

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

## Climate change

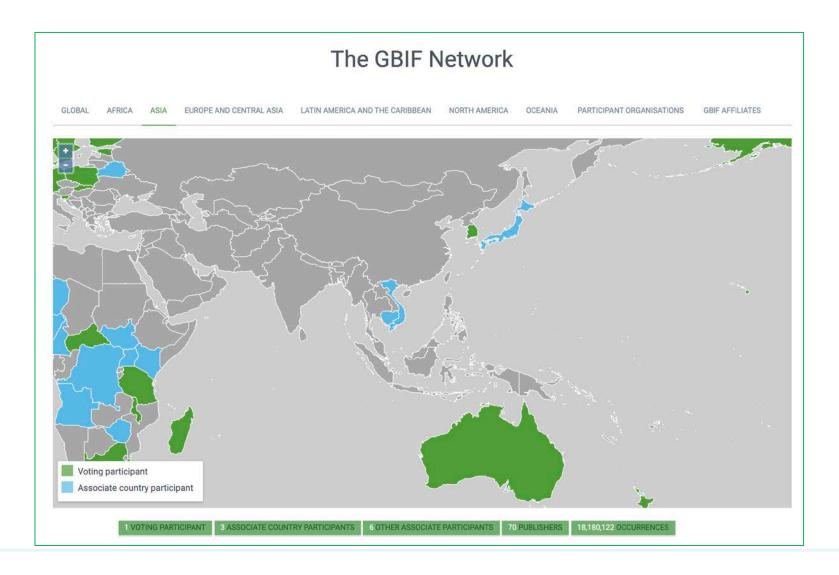
- Modelling impacts on species ranges
- Adaptation strategies
- Mitigation benefits, risks

#### **Human health**

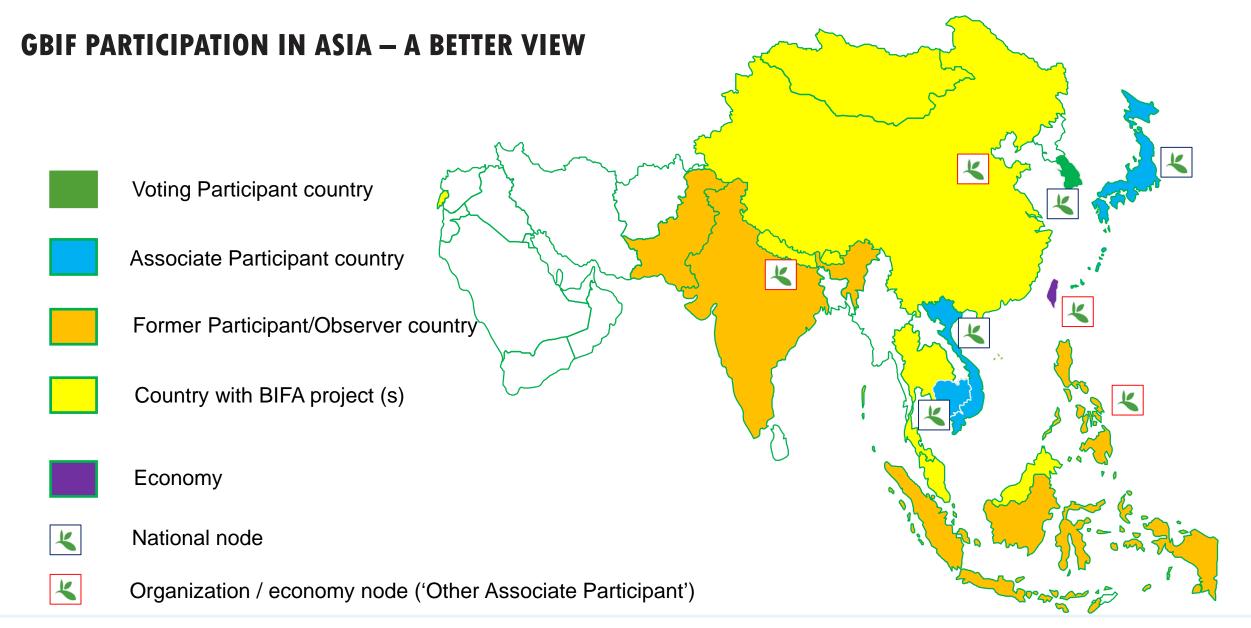
- Disease risk based on occurrence of vectors, hosts, reservoirs
- Medicinal plants
- Hazards e.g. snakebite



## **GBIF PARTICIPATION IN ASIA — THE OFFICIAL VIEW**









NEWS | 15 JULY 2020

## BIFA programme awards funding to nine new projects in Asia

Projects selected under the Biodiversity Information Fund for Asia will promote the mobilization and use of biodiversity data from Asian collections and ecological monitoring



Prickly water lily (Euryale ferox) observed in Xiaoxingkai Lake, Heilongjiang, China by John Howes. Photo via iNaturalist (CC BY-N



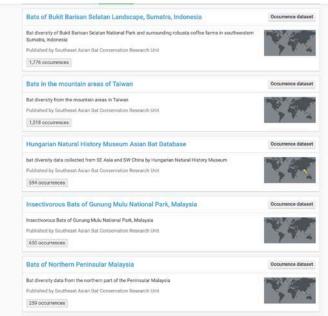
Project	Country of project lead	Funding from BIFA	Cofunding
Digitizing and data basing of bee specimens in Thailand	Thailand	€ 13,888	€ 13,888
Enriching the Bhutan Biodiversity Portal through digitization and mobilization of specimen collections	Bhutan	€ 7,952	€ 9,072
Supporting conservation through mobilizing ecological data from Kalimantan, Indonesia	Indonesia	€ 14,985	€ 4,828
Mobilizing Indonesian butterfly collections at the Museum Zoologi Bogor (II)	Indonesia	€ 14,953	€ 15,516
Digitization of specimens at the University of the Philippines Los Baños Museum of Natural History	Philippines	€ 14,992	€ 5,233
Digitization of mycological collections in Nepal	Nepal	€ 14,750	€ 8,500
Mobilizing invertebrate monitoring data in South-East Asia	China	€ 14,127	€ 81,102
Monitoring the diversity and distribution of whales in Vietnamese waters	Viet Nam	€ 14,783	€ 14,585
Cleaning and digitizing plant specimen records from Heilongjiang Province, China	China	€ 7,399	€ 11,015



### **NEW DATASETS FROM ASIA**

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

ABOUT NEWS & EVENTS DATASETS





台灣真菌地理分布系統資料庫之建制與應用(1/4) Published by Taiwan Forestry Bureau 培芬 Lee ◆ 行政院農業委員會林務局 ◆ △ 聲華 Wu DATASET PROJECT METRICS ACTIVITY # DOWNLOAD 台灣真菌資源調查將近一百年以來已有相當成果。近十年多來在個內多位學者及科博館專家的努力下以及在農委會、國 Metadata last modified: July 16, 2020 科會的支持下陸續建立起台灣真面資源各項資料庫。唯一尚未建立的就是台灣真面地理分布資料庫,因此無法快達查詢 Hosted by: Taiwan Biodiversity Information Facility 到台灣頁面標類的分布訊息。目前已建立起台灣頁面名錄,其中約有6600種,第二版的台灣頁面誌內包括兩千多種。這 兩項資料庫的建立成為台灣真菌地理分布資料庫建制計畫的基礎。全世界的葡萄估計有一百五十萬種,其中的百分之九 十八的種類為真菌界的成員。目前人類已知的菌類有九萬多種,僅及现存種類的不到百分之十。菌類由於種類繁多以及 77 How to cite 001 10.15458/s2ysa4 分布廣泛,在生態系中扮演著重要角色;它們的食用性、毒性、醫藥與保健用途也是人類所重視的。台灣菌類調查检於 日據時代,主要貢獻者為澤田蒙吉,當時共提出2,464種;目前統計台灣已約有6,600種。估計台灣菌類約有兩萬六千 種,因此台灣菌類調查程度的為四分之一。台灣菌類各類資料庫在國內各類研究資源的支持下,十多年來已有逐步的建 立,目前在國科會數位典藏國家型計畫的支持下整合為一包括各種台灣菌類資料庫的「數位台灣真菌知識館」。「數位 台灣真菌知識館」(http://digiku.nm... More With coordinates 4,573 GEOREFERENCED RECORDS EXPLORE AREA 🚊 🏲 💿 🦎



## DATA USE IN PEER-REVIEWED JOURNALS 31 May 2020

#### **Peer-reviewed uses by country**

Year-to	-date		2019 rank
1	United States	107	1
2	China	57	2
3	Brazil	54	3
4	United Kingdom	47	4
5	Mexico	42	5
6	Germany	41	6
7	Spain	37	8
8	Canada	29	10
9	Australia	21	7
10	France	19	9

#### Peer-reviewed uses by region 310 Europe 597 170 **Latin America** 255 136 **North America** 261 124 Asia 220 **Africa** Oceania 200 400 600 800 **2020 2019**



#### **GBIF.ORG WEB TRAFFIC BY COUNTRY**



New Users Sessions 1,733,266 1,724,873 3,270,378 (1,733,266)(1,722,564)(3,270,378) United States 193,460 (10.99%) 191,119 (11.08%) 321,811 (9.84%) Mexico 138,610 (7.88%) 138,002 (8.00%) 232,593 (7.11%) Colombia 107,281 (6.10%) 105,168 (6.10%) 194,774 (5.96%) 4. Spain 92,302 (5.24%) 90,060 (5.22%) 173,018 (5.29%) 5. Samuel Brazil 85,134 (4.94%) 157,769 (4.82%) 87,223 (4.96%) France 75,397 (4.28%) 73,871 (4.28%) **136,266** (4.17%) 7. Tindia 68,102 (3.87%) 66,789 (3.87%) **141,416** (4.32%) 8. Germany 108,622 (3.32%) 58,886 (3.35%) 58,486 (3.39%) United Kingdom 58,449 (3.32%) 57,081 (3.31%) **111,748** (3.42%) 10. Indonesia 42,778 (2.43%) 42,757 (2.48%) 88,275 (2.70%) 11. III Italy 38,193 (2.17%) 37,327 (2.16%) 66,608 (2.04%) Japan 37,140 (2.11%) 36,152 (2.10%) 66,831 (2.04%) 13. Mel Canada 31,409 (1.82%) 31,849 (1.81%) 61,519 (1.88%) 14. Marie China 30,898 (1.76%) 29,243 (1.70%) 75,959 (2.32%) 28,824 (1.64%) 28,314 (1.64%) 55,044 (1.68%) 16. Argentina 26,645 (1.51%) 45,058 (1.38%) 26,143 (1.52%) 17. Netherlands 26,144 (1.49%) 25,087 (1.45%) 49,714 (1.52%) 65,157 (1.99%) Russia 25,401 (1.44%) 24,819 (1.44%) 19. Australia 24,551 (1.42%) **43,327** (1.32%) 25,154 (1.43%) 20. Philippines 24,604 (1.40%) 24,202 (1.40%) 41,778 (1.28%)

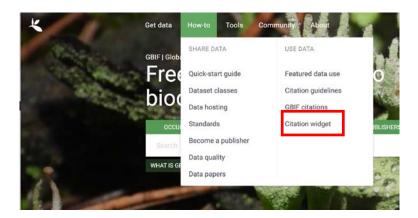
Acquisition

Country ?





#### DEMONSTRATING RESEARCH VALUE OF GBIF DATA MOBILIZATION TO DATA PUBLISHERS



#### Citation count

To show a button with number of citation, simply insert an iframe like below. The important part is the source <a href="https://www.gbif.org/api/widgets/literature/button?YOUR\_FILTER">https://www.gbif.org/api/widgets/literature/button?YOUR\_FILTER</a>.

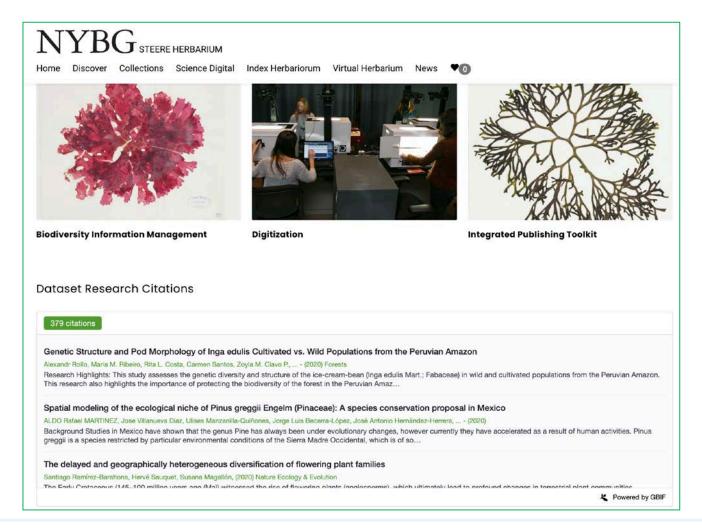
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7-4a22-a47d-8c48425ef4a7" scrolling="no" frameborder="0" allowtransparency="true" allowfull
screen="false" style="width: 140px; height: 24px;"></iframe>

713 citations

#### Citation feed

It is also possible to show the feed, by changing the url. The important part is the source https://www.gbif.org/api/widgets/literature/latest?YOUR\_FILTER.

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7-4a22-a47d-8c48425ef4a7" scrolling="no" frameborder="0" allowtransparency="true" allowfull
screen="false" style="width: 100%; height: 350px;"></iframe>





#### 20-YEAR REVIEW OF GBIF: RECOMMENDATIONS SPECIFIC TO ASIA

R5, Eastern Participation (p.122): Build Participation in the East. This is a long-term activity, but flexibility and creativity should be employed through short-term measures, which would show progress and build good will for full Participation in GBIF, particularly in Asia.

R18, Asian Participation (p.127): To establish a permanent foothold in Asia, GBIF should consider a branch office in an Asian country which is, like Denmark, small but wealthy enough to support hosting, politically (relatively) neutral, multilingual, and safe.





#### **OUTREACH TO THE PRIVATE SECTOR**

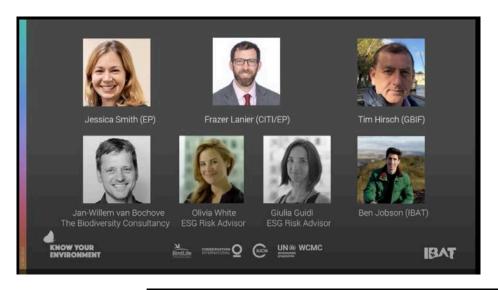
#### **BIODIVERSITY DATA SHARING**

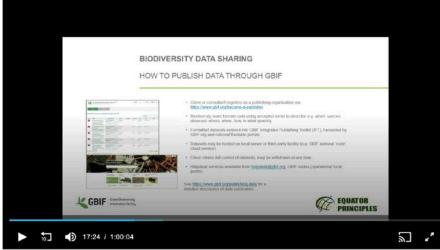
**NEW EP4 COMMITMENT** 

"The EPFI will encourage the client to share commercially non-sensitive Project-specific biodiversity data with the Global Biodiversity Information Facility (GBIF) and relevant national and global data repositories, using formats and conditions to enable such data to be accessed and re-used in future decisions and research applications."



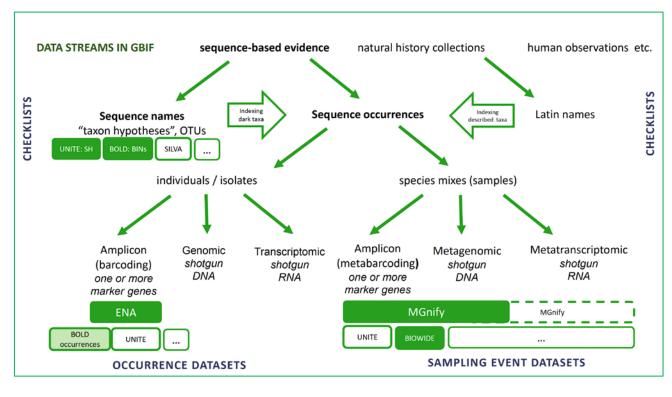


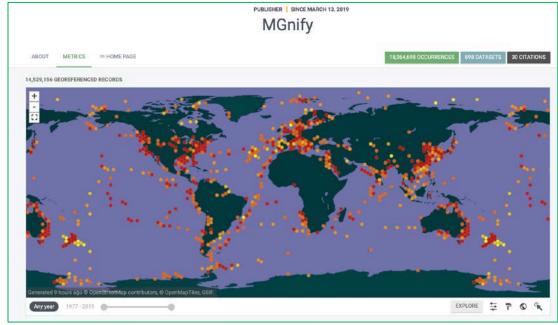






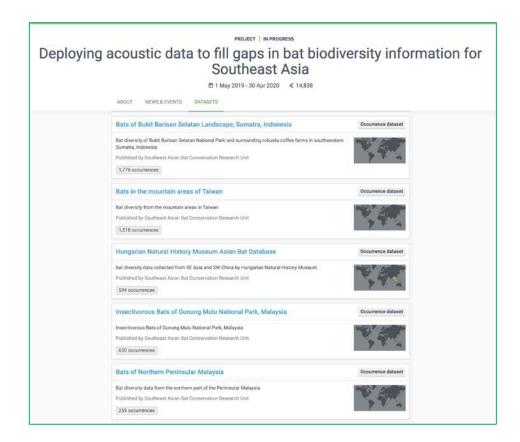
## **GUIDANCE ON PUBLISHING SEQUENCE-DERIVED DATA IN GBIF (COMING SOON!)**







#### ENHANCING GBIF'S VALUE TO SUPPORT HUMAN DISEASE RESEARCH





Expert task group on mobilizing data for zoonotic diseases starting work August 2020



# **THANK YOU**

thirsch@gbif.org





## **GBIF Asia Virtual Summit**

# GBIF Nodes in Asia: Collaborations and plans



2020.7.20.





National Museum of Nature and Science, Node Manager GBIF Japan Regional Representative, GBIF Asia

# **Key points**

Activity in the past
Regional strategy
BIFA
Recent development

# 2<sup>nd</sup> Asian Nodes Workshop highlights / general remarks (2010, partially cited)

- The region, the continent Asia is very diverse, also in the context of GBIF. <u>This heterogeneity poses some challenges</u> <u>in terms of collaboration and communication</u>.
- 2. Despite its potential, the representation of the region in GBIF is not very strong. Relevant causes for this is that there are only two voting members of GBIF in Asia, and there is not a single full time GBIF node manager in the continent, lack of a national mandate or budget are also common issues for GBIF nodes.
- 3. There was a consensus about <u>keeping contacts and starting</u> <u>activities at the regional level</u>. However <u>how to move</u> <u>forward</u> and what level of formalization is needed <u>remain</u> <u>issues open for discussion</u>.

## **Asian Regional Meeting (1)**

- 1. 2009.9. Thailand (1st)
- 2. 2010.11. India (2nd)
- 3. 2012.3. Japan (3rd)
  Sheila Vergara (ACB) elected as an Asian
- Representative

Nakul Chettri (ICIMOD) elected as a deputy Rep.

4. 2012.6. Taiwan (4th)





# Regional Strategy, Asia (2013-2016)

**Strategy 1: Build network** of data holders and providers in the region by sharing information on GBIF and regional nodes informatics infrastructure as well as information on existing thematic databases such as FishBase, IBIN, ILTER, species group networks.

**Strategy 2: Popularize the data paper** incentive through development of metadata catalogues and corresponding datasets.

**Strategy 3:** Explore (funding) options for **mobilising legacy data** housed in museums and herbaria and (mechanism) for repatriation of biodiversity data from Asia housed in other countries.

**Strategy 4:** Strengthen help desk facility at regional nodes to **ensure the use of DwC-A standard** for generating new biodiversity data (metadata, occurrences, checklist) and to better mobilise the publishing of data through GBIF IPT platform.

## **Scientific activities**

- Making species checklist at national level, including invasive, Red List, endemic species and migratory birds.
  - Discovery of many unlisted names in GBIF.
  - Integration found to be difficult due to the difference of updating timing.
  - Partial lists of endangered species provided from Chinese Taipei and Japan.
- Updating fish databases to assess fish biodiversity loss and risk in Asia.
  - Data published through ACB.

## List of participants in Asia as of June 2020

# Voting

Korea

## **Associate**

Cambodia, India, Indonesia, Japan, Pakistan, Philippines, Viet Nam

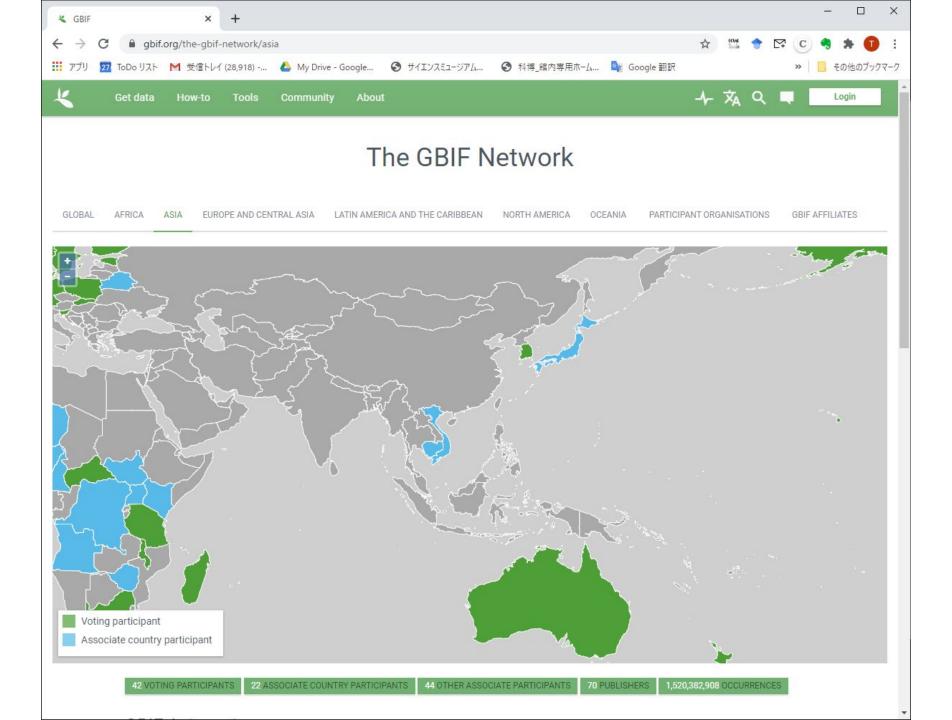
# Other Associate Participant

ACB (ASEAN Center of Biodiversity)

CAS (Chinese Academy of Science)

Chinese Taipei

ICIMOD (International Centre for Integrated Mountain Development)



## **Asian Regional Meeting (2)**

- 5. 2014.7. Japan (5th)
  - T. Hosoya (JP): Representative.
  - Y.H. Wang (C.T.): Deputy Rep.
- 6. 2015.6. Taiwan (6th)
  BIFA discussed.
- 7. 2016.6. Philippines (7th)

  New regional strategy.

  Reps. elected for another 2 yrs.





# **Asian Regional Meeting (3)**

- 8. 2017.6. VietNam (8th) VietNam joined!
- 9. 2018.9. ICIMOD (9th)
  - (CT): Chiejen "Burk" Ko (Rep.)
  - (JP): T. Hosoya (Deputy)
- 10. 2019.7. VietNam (10<sup>th</sup>)
  - +Data mobilization WS
- 11. 2020.7. Zoom (11th)
  - +Data mobilization WS





# GBIF Strategic Plan (2017-2022)

- 1. Deliver relevant data
- 2. Improve data quality
- 3. Fill data gaps
- 4. Enhance biodiversity informatics infrastructure
- 5. Empower global network

## Regional Strategy, Asia (2017-2022)

## I. Empower Global Network

- 1. Promote capacity building among relevant participants.
- 2. Reduce language barrier.
- 3. Increase outreach / education (to non-member countries).
- 4. Seek for funding for stable and proactive activity.

### **II. Enhance Biodiversity Informatics Infrastructure**

- 5. Promote setting up IPT server.
- 6. Promoting fundamental information for biodiversity analysis.

## **III. Fill Data Gaps**

- 7. Analyze data gaps.
- 8. Promote engagement of common citizens.
- 9. Mobilize new data types.
- 10. Accelerate digitization and provision of legacy data.

### IV. Improve Data Quality

11. Analyze the data at hand to objectively evaluate the status.

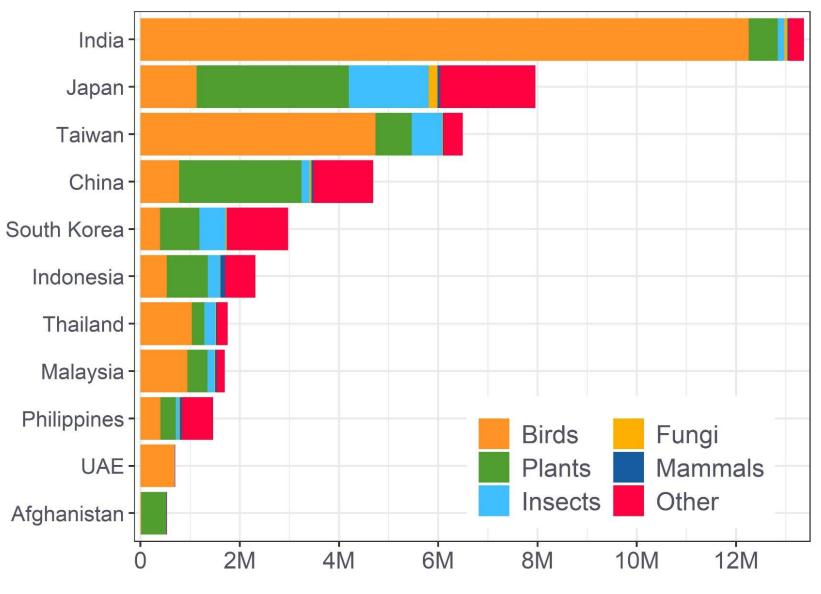
# **BIFA** (Since 2015)

## **Biodiversity Information Fund for Asia**

- 1. Fund provided from Japanese government through Ministry of Environment, Japan.
- 2. Used for the development of Biodiversity informatics of Asia in GBIF context.
- 3. Steered by the Steering Committee (JP Gov. + Asian Rep.+ GBIFS), with Evaluation Board.
  - The fund supports data publication from non-GBIF participants.
  - Funding supplied annually for 5 times already, contributed in increase of data from Asia.

Asia

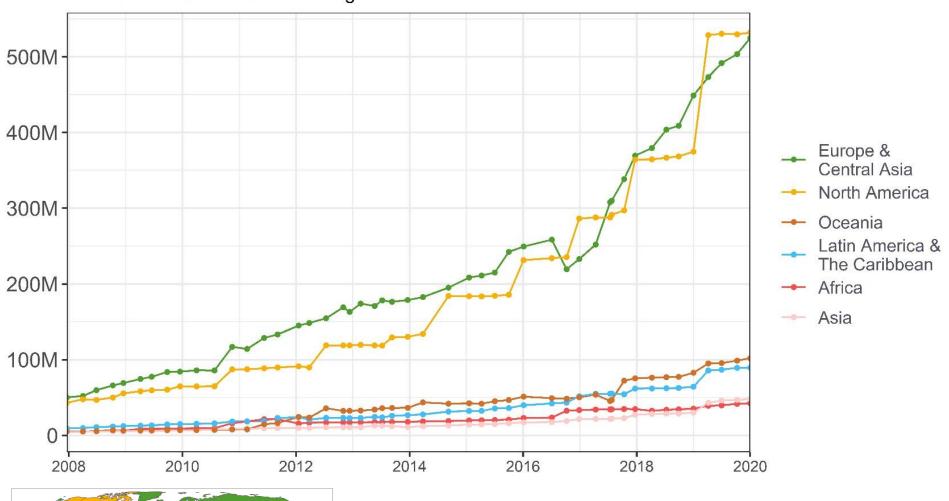
Number of occurrences about country/area for popular groups



number of occurrences

#### **Number of Occurrences**

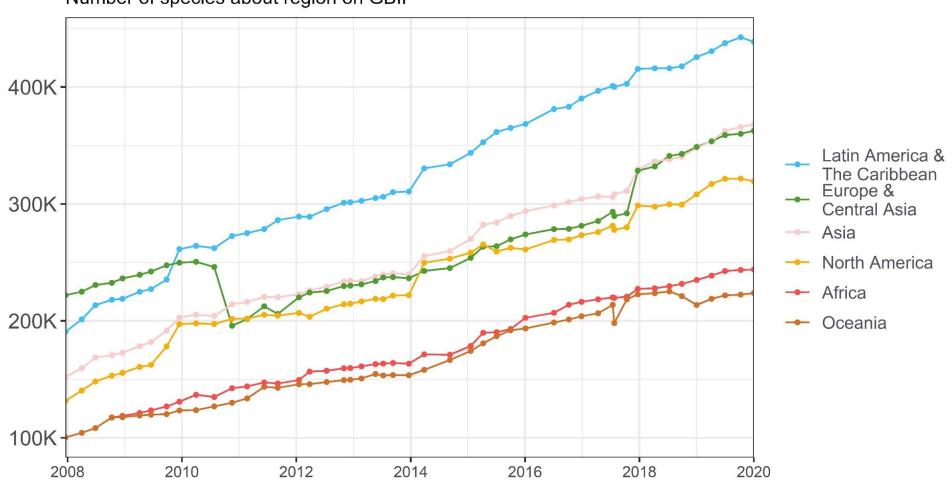
Number of Occurrences about region on GBIF





#### **Number of Species on GBIF**

Number of species about region on GBIF



# Looking at the bright side:

- Data publication increasing!
- New participants and data publishers!
- Use cases increasing!
- Opportunities of capacity building increasing!

## But we still need to work on:

- Language barrier
- Stable funding
- IT support
- Regional/Global collaboration
- Open data, data recycling

# **Challenges: Still few data published**

- Identification of data holders
- Incentives
- Use cases to express the importance and usefulness of the integrated data
- Language barrier
- Capacity building
- Funding
- IT support
- Regional/Global collaboration
- Open data, data recycling



# Cambodia's decision to join GBIF

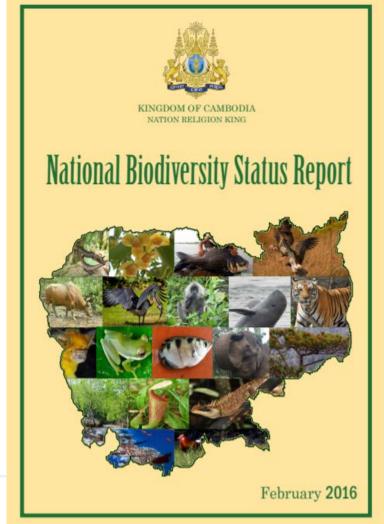
- Cambodia protected area system covers more than 48 per cent of the country's land area (6<sup>th</sup> National Report);
- Cambodia identified the needs for increased capacity to organize and facilitate access to data on Cambodia's rich biodiversity;
- GSSD/MoE is in the process of building a national biodiversity information system (NBIS); and
- Establishing a GBIF node is seen as a way of supporting that activity.





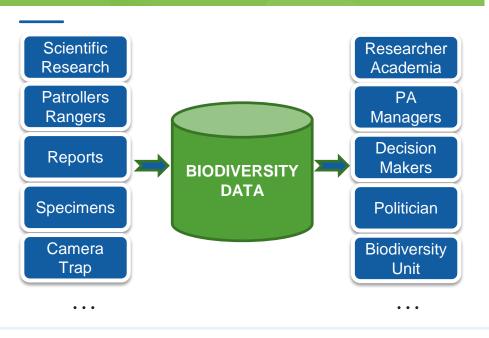
# Biodiversity Data Mobilization - plans and progress

- Biodiversity data has been collected from line ministries, NGOs partners, academic institution, researchers etc. and shared on Cambodia CHM Website;
- The latest Cambodian biodiversity status report (GSSD/MoE, 2016) showed the taxon records of 3113 plant, 162 mammals, 601 birds, 1357 fishes, 173 reptiles, 72 amphibians and 671 invertebrates;
- The status report is on the process of updating, while, data gathering, and information management system is under development; and
- The GBIF is a platform of considering.





# Users of Biodiversity Data in Cambodia

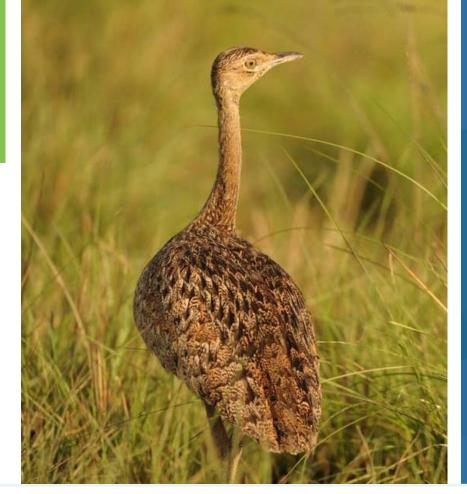






# Vision for Cambodia's participation in GBIF

- To establish a standard and comprehensive biodiversity database system with capacity to record, maintain, and manage species data and information;
- To use data and information for country's sustainable development with priorities on biological resources and ecosystem conservation and management; and
- GBIF is the appropriate international biodiversity network, aiming for biodiversity data sharing and accessing.







BIFA04\_24: Deploying acoustic data to fill gaps in bat biodiversity information for Southeast Asia

Joe Chun-Chia Huang







GBIF Information Facility

Biodiversity Information Fund for Asia (BIFA)



**Global Biodiversity** 

### **Project objectives**

SE Asian bats (~400 spp.) comprise c. 28% of global count but contribute < 2.5 % of GBIF data (1998~2020 period)

- 1. To mobilize existing species data embedded in acoustic recordings
- To popularize open science and data science to SE Asian bat society







**Left**: Trefoil horseshoe bat (*Rhinolophus trifoliatus*); **Right-up**: Halequin bat (*Scotomanes ornatus*); **right-bottom**: Black-capped fruit bat (*Chironax melanocephalus*)





### Project architecture



#### **Formatting**

- DwC
- GUANO
- CC-BY license
- Unique identifier
- ABCD sharing policy
- SEBACRU policy

#### Asian Bat Call Database

 Species occurrence data attached with reference recordings of bat calls









#### SEABCRU database

- 40k clean data from literatures, museums & GBIF
- 2,000-2,500 new data from ABCD







Fawn leaf-nosed bat (*Hipposideros cervinus*) from Malaysia, photo by *Adrià López-Baucells* (CC BY-NC 4.0)



### Main activities

- A kick-off meeting prior to the project was hold in Feb. 2019
- Advertising the project in 3 workshops in Thailand in July 2019
- Main workshop for data cleaning and assembling in Malaysia in Dec. 2019
- A webinar is scheduled in Aug. 2020

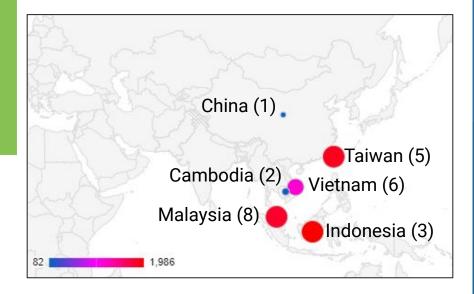


2019 SE ABCD & BI Workshop, Bangi, Malaysia, photo by *MBCRU* (CC BY-NC 4.0)



### Results

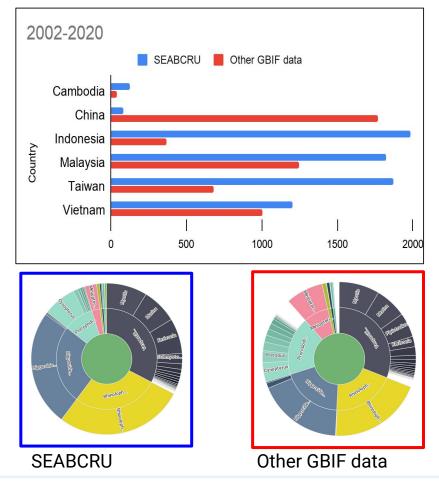
- 22 datasets from 18 research teams
- 7,097 records of 179 species from 5 Asian countries from 2002 to 2020
- 3,432 reference calls



Number of records and dataset involved per country/area from SEBACRU in the GBIF database (https://www.gbif.org/publisher/768e0109-68c6-4611-b8be-df2ae01aa470/metrics)

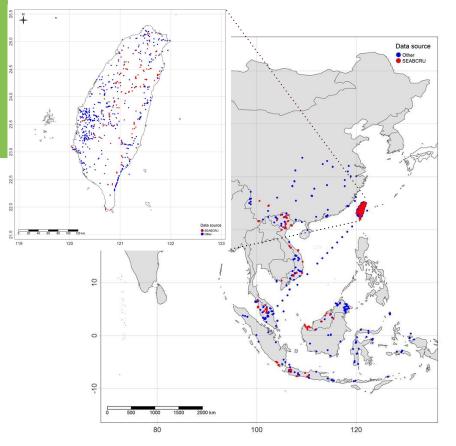


- Increase 139% of bat data records in GBIF (5,105 from other publishers) for 2002-2020
- Except China, our project largely improve data quantity for each country (120-540%)
- Good genus coverage
- c. 93.5% is at species level





- > 92% is georeferenced
- Largely fill spatial gaps of GBIF data
- We provide a case that transboundary network could serve as an effective regional node for GBIF



Distribution of 2002-2020 bat records from SEABCRU and other GBIF publishers, map by *Le Tuan Quang* 



# Benefits of getting involved in GBIF (BIFA)

- To engaging individual-, university-, country-based collections to our regional databases and GBIF platform
- 2. To identify the current data gaps
- 3. To facilitate implementation of acoustic techniques to support bat research







































# Digitizing butterflies of Singapore & Peninsular Malaysia BIFA4\_050

Wei Song HWANG

Lee Kong Chian Natural History Museum,

National University of Singapore



Global Biodiversity Information Facility

Biodiversity Information Fund for Asia (BIFA)



### **Project objectives**

Butterflies of the Southeast Asian Islands Consortium Project

Mobilize 10,000 museum butterfly specimen housed in the Lee Kong Chian Natural History Museum (NUS)

- Label transcriptions
- Specimen imaging (dorsal & ventral)
- Georeferencing

Represents ~1,200 species (25% Oriental butterfly diversity), 2.4x European butterfly diversity



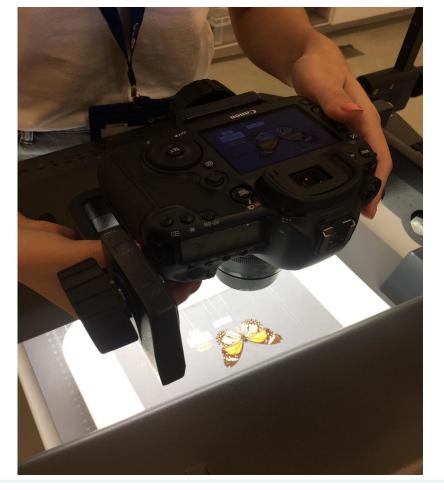


### Main activities and results

 6 Butterfly Families Occurrence datasets generated

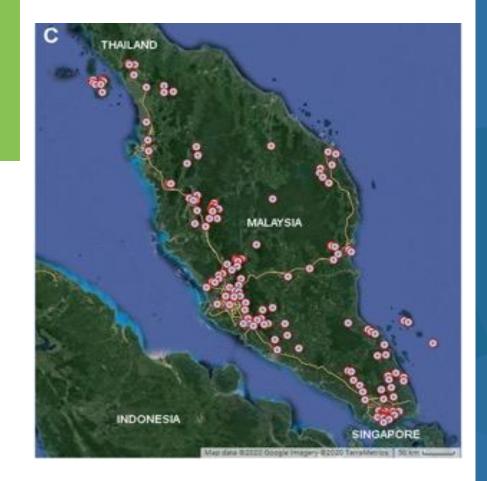
#### Total:

- 12,702 specimens transcribed
- 1,435 species & subspecies recorded
- 187 localities
- 10,104 specimens imaged (as of 17 Jul)





- Increased butterfly species representation for the region by >90%
- Georeferenced dataset (1936 1998)
   bridged gap between historical and recent collections
- Identified 398 species rare/very rare (28% of total diversity) >> conservation assessment needed





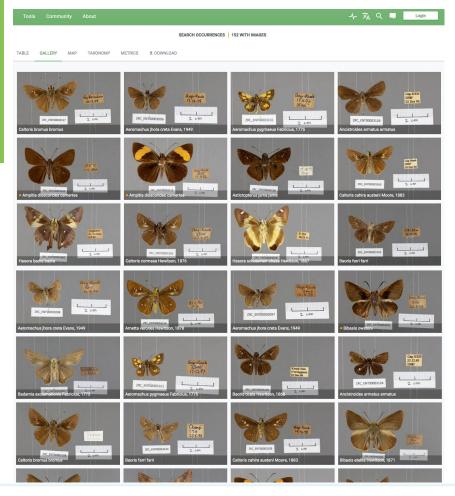
- Operationalized our digitization workflow
- Developed image-recognition OCR file-naming algorithm protocol
- Training of 4 interns (co-funded by LKCNHM)
- Virtual collection for taxonomic research (598 download events)





## Benefits of getting involved in GBIF

- Dataset publicly accessible
- 2. GBIF training workshop
- 3. GBIF IT infrastructure & services





### Acknowledgements

### **Financial Support**

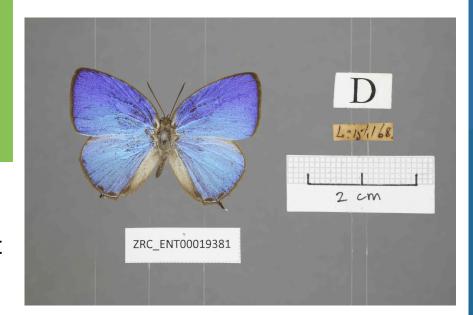
- GBIF BIFA, Ministry of the Environment Japan
- LKCNHM

#### **Data assistance**

- GBIF Helpdesk staff
- Angus Fleming, Nicholas Doggett, Khew Sin Khoon

### **Imaging Support**

Ang Yuchen, Jharyathri Thiagarajah, Cherry Goh, Daniel Lim Yu Hian







# Digitizing butterflies of Singapore & Peninsular Malaysia BIFA4\_050

Wei Song HWANG

Lee Kong Chian Natural History Museum,

National University of Singapore



Biodiversity Information Fund for Asia (BIFA)



### Project objectives

Butterflies of the Southeast Asian Islands Consortium Project

Mobilize 10,000 museum butterfly specimen housed in the Lee Kong Chian Natural History Museum (NUS)

- Label transcriptions
- Specimen imaging (dorsal & ventral)
- Georeferencing

Represents ~1,200 species (25% Oriental butterfly diversity), 2.4x European butterfly diversity



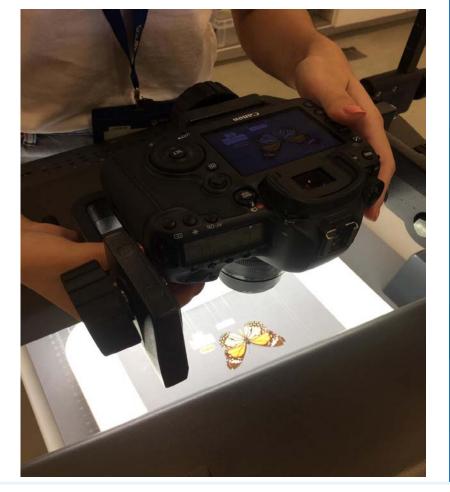


### Main activities and results

 6 Butterfly Families Occurrence datasets generated

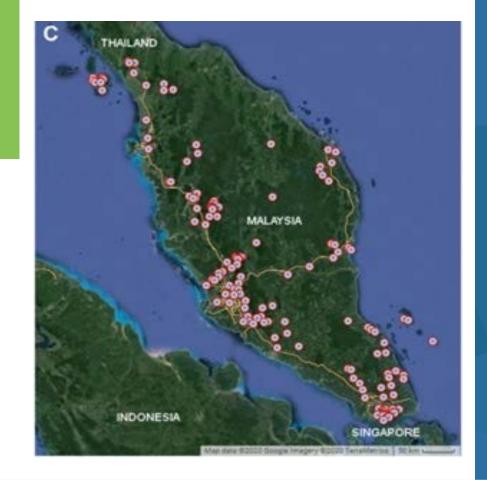
#### Total:

- 12,702 specimens transcribed
- 1,435 species & subspecies recorded
- 187 localities
- 10,104 specimens imaged (as of 17 Jul)





- Increased butterfly species representation for the region by >90%
- Georeferenced dataset (1936 1998) bridged gap between historical and recent collections
- Identified 398 species rare/very rare (28% of total diversity) >> conservation assessment needed





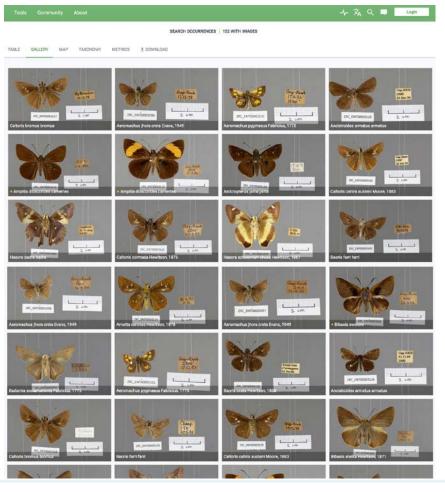
- Operationalized our digitization workflow
- Developed image-recognition OCR filenaming algorithm protocol
- Training of 4 interns (co-funded by LKCNHM)
- Virtual collection for taxonomic research (598 download events)





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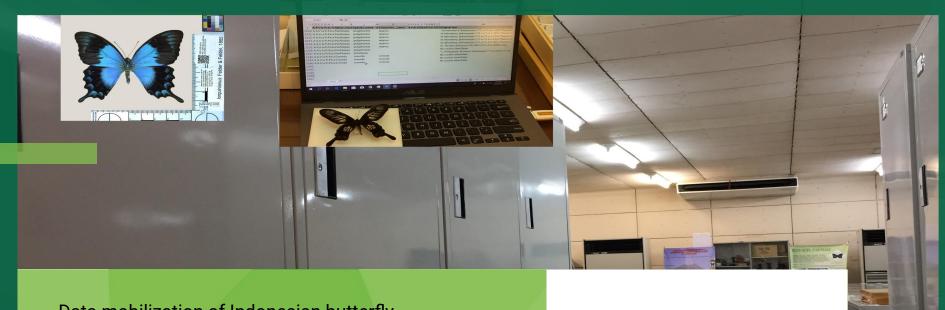
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Data mobilization of Indonesian butterfly collections at Museum Zoologi Bogor, Indonesia

Djunijanti Peggie - Research Center for Biology, Indonesian Institute of Sciences



Global Biodiversity Information Facility

Biodiversity Information Fund for Asia (BIFA)



### **Project objectives**





- improve MZB butterfly collections and data management to benefit any future research of Indonesian butterflies
- have well-curated MZB butterfly specimens in database for easy access
- provide registered and georeferenced collection data to GBIF
- enable the usage of specimen data for further purpose such as conservation policy

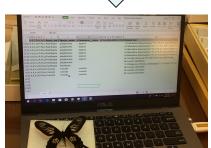














### Main activities and results

- Specimen ID & validation to species & subspecies level
- Specimen data registration + QR code and photo-taking
- Data checking, geo-referencing, data cleaning, data mapping to Darwin core → publish to GBIF
- Target 7000 entries  $\rightarrow$  over 9,700 entries of all identified specimens were mobilized.
- Workshop attended by 40 participants butterfly enthusiasts and colleagues of other labs. Scheme for data mobilization was introduced using the take-home leaflet.









Sasaran workshop atan ini kepada penggia kupu-kupu agar dapat me dapat berkontribusi melaporkan keberadaar spesies melalui spesimen ataunun foto kunu-kunu. Data tambahan mengenai keberadaan berbagai spesies kupu kupu dapat menjadi kontribusi ke InaBIF dan GBIF.

menyampaikan kepada pengelola lab koleksi lainnya di Bidang Zoologi mengenai proses registrasi spesimen yang diterapkan beserta pengelolaan data.

Workshop berlangsung satu hari, Senin, 24 Februari 2020. Tempat: Ruang Seminar, Bidang Zoologi, Pusat Penelitian

#### Acara workshop

Penaenalan proses registrasi spesimen kupu-kupu hinaaa penanaanan data

#### Penaelolaan data koleksi

Proses registrasi spesimen (dalam amplop atau direnta memilah, menaidentifikasi/validasi, menaelompokkan pada lokasi geografi, memberikan nomor MZB Lepi dan label kode QR, memasukkan data ke lembar data Excel, mengambil foto permukaan atas dan bawah spesimen

#### Penanganan data

melakukan interpretasi data, melengkapi georeference, mengecek dan membersihkan data, mempersiapkan data mapping ke Darwin Core dan diunggah/dipublikasi ke

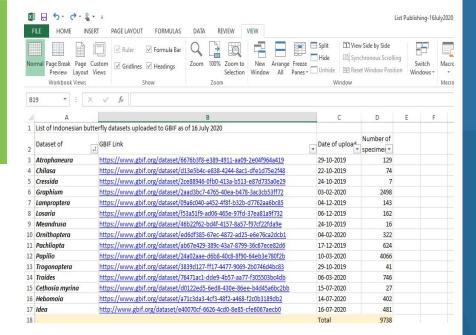




The availability of the data will benefit decision makers in assessing the importance and rarity status of certain species of butterflies, related to International Union for Conservation of Nature and Natural Resources (IUCN) and Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

Additionally, observation records contributed by butterfly enthusiasts:

http://www.gbif.org/dataset/4d236e9c-fa04-4a94-9356-382c 9f7c84c0







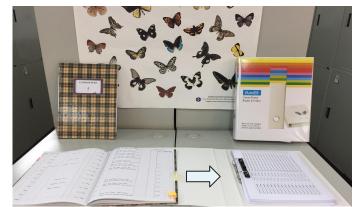


## Benefits of getting involved in GBIF

The BIFA program administered by GBIF has been a wonderful support for us to improve our collection and data access. Involvement in GBIF has been a great opportunity to learn and to develop data system and to gain further insights.

Unlike some other grants, BIFA-GBIF has nurtured us along the way and geared us with all necessary support system. The BIFA workshop is superb, and all other communications organized and facilitated have been very helpful to keep us on track and fully committed.

Project partners (Dr. Christoph Häuser of Museum für Naturkunde, Berlin, Germany; Tina Loo of Naturalis, Leiden, the Netherlands; InaBIF) have also been supportive.



Catalog book

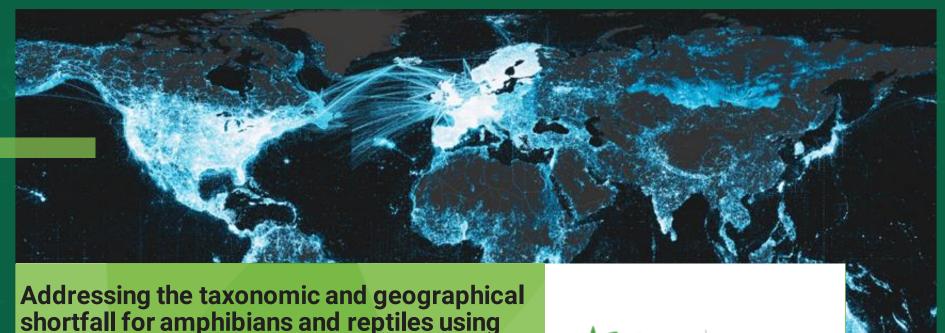












Addressing the taxonomic and geographical shortfall for amphibians and reptiles using specimen data from the collection of Bombay Natural History Society, Mumbai, India.

Saunak Pal, Scientist B, BNHS, India



Biodiversity Information Fund for Asia (BIFA)



### **Project objectives**

| Part |

To resolve taxonomic ambiguities of Indian reptiles and amphibians and understand distribution using morphological, geographic and ecological information.

Create digital database collating information about collector, identifier, repository details, field notes, published literature etc.

Map species distribution based on species occurrence records.

Create database linking species-specific images with the catalogue to help future researchers.









### Main activities and results

Digitized over 10,000 verbatim data from registers for the reptile and amphibian specimens in the collection.

Published updated catalogues for reptile and amphibian type specimens in GBIF with over 750 occurrence records.

Published catalogue of sea snakes with over 230 occurrence records for 30 species.

Workshops – Taxonomy, specimen photography & image processing and georeferencing







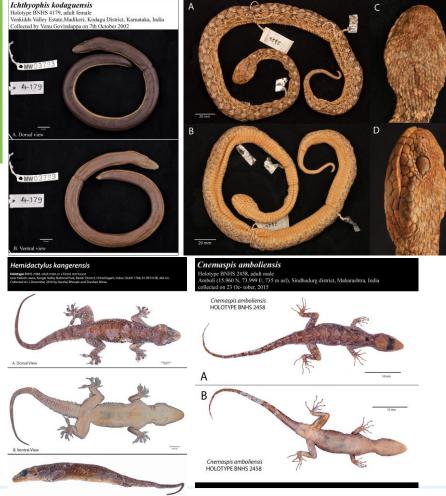




The project significantly highlighted the amount of undocumented data that lies in museum registers especially for species considered data deficient

Digitized and published occurrence records can be used for conservation assessments

Images and observations on museum specimens will help in proper taxonomic identification of cryptic species





## Benefits of getting involved in GBIF

Improved overall understanding of significance of biodiversity data capture and sharing through BIFA workshop

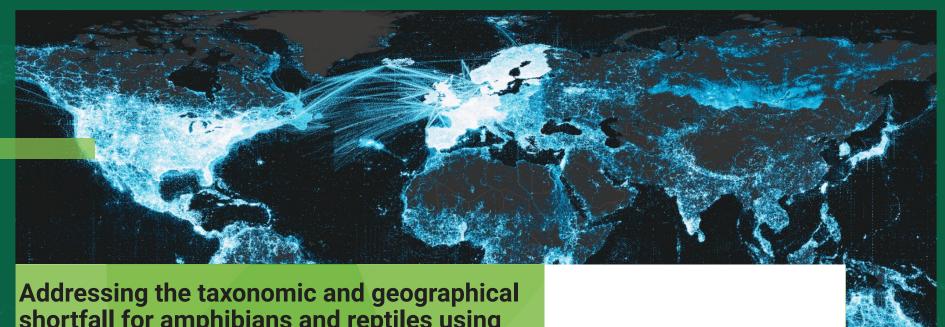
Interaction with other participants and mentors helped in learning specific tools and for future collaborations

Understanding the GBIF platform and frameworks like Darwin core helped in designing long-term digitization project and collaboration with other regional museums

Publishing data through GBIF will help in international recognition and further use of information necessary for conservation policy







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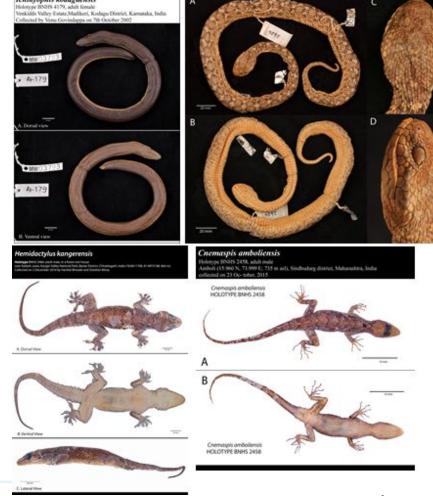


### Project impacts and data relevance

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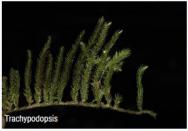


















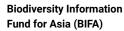
### **BIFA4-055**

A continuous data mobilization of Vietnamese bryophyte and lichen collections

Luong Thien Tam | University of Science (Ho Chi Minh city, Vietnam)



Global Biodiversity Information Facility











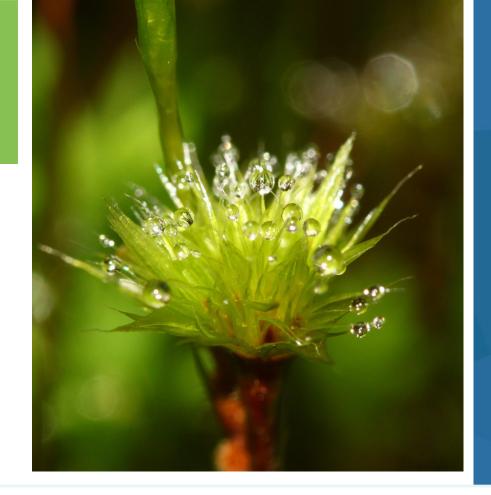






#### **Project objectives**

- Continuing mobilizing species information from the cryptogam collections of the Herbarium PC, EGR, TTN and PHH to GBIF.
- Advance research and help to complete the data of known bryophyte and lichen observations in Vietnam.
- Seminar & Workshop arranged will improve skills and knowledge of local researcher community on GBIF data mobilization.





### Seminar & Workshop on "GBIF & open data in biodiversity study"

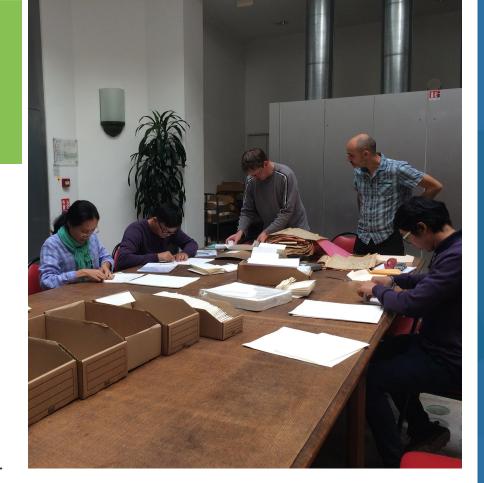
- 15th- 17th July 2019
- Participant: 43 (Seminar-outreach session), 20 (Workshop, practical training session)
- After the workshop, most of the workshop participant (15 out of 17) said that they would use GBIF's data for their studies and be able to perform related skills about biodiversity data.





### Visiting Paris for digitizing and databasing specimens

- "Vietnamese bryophytes and lichens collection in PC" incorporated in the main dataset Cryptogamy Collection at MNHN-Paris: ~4000-5000 records
- On March 2020, 2772 Vietnam specimens corresponding to 942 taxa, including 674 types specimens of 338 taxa had been computerized.





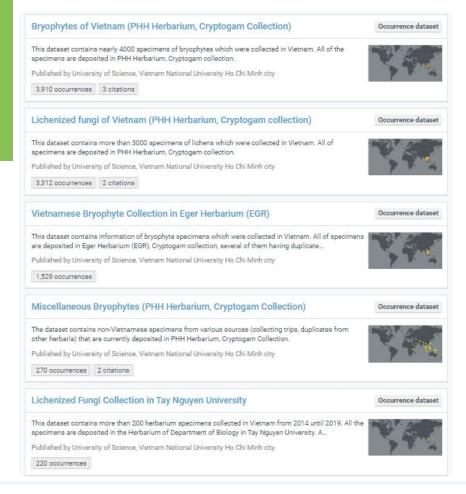
### Visiting Eger for digitizing and databasing specimens

- Pulled out Vietnamese specimens, labelled, scanned
- Looked up for collecting information and divided into duplicates for PHH and TUR Herbarium.
- updated identification by Prof. Pocs Tamas, Dr.
   Sanna Huttunen (from TUR)





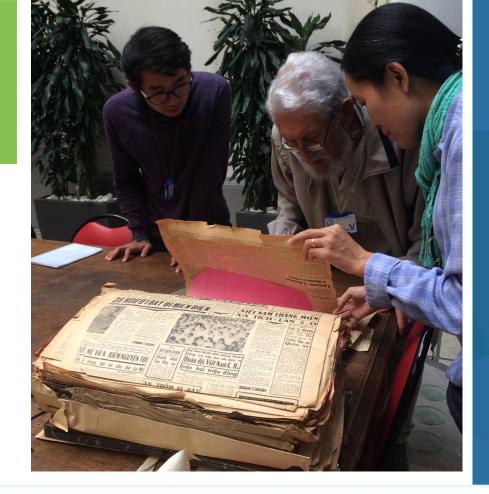
- 4 new datasets in the BIFA4 projects with more than 2000 records, and ~1400-1500 images
- also updated 3 datasets from the BIFA3\_032 project





# Project impacts and data relevance

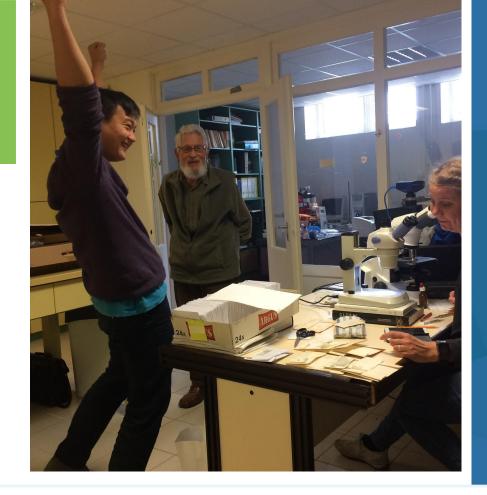
- First steps to a long-term aim for a checklist & flora of Vietnam bryophytes & lichens
- Georeference and imaged historical records
- The first publisher in Vietnam => attracted attention from the community.



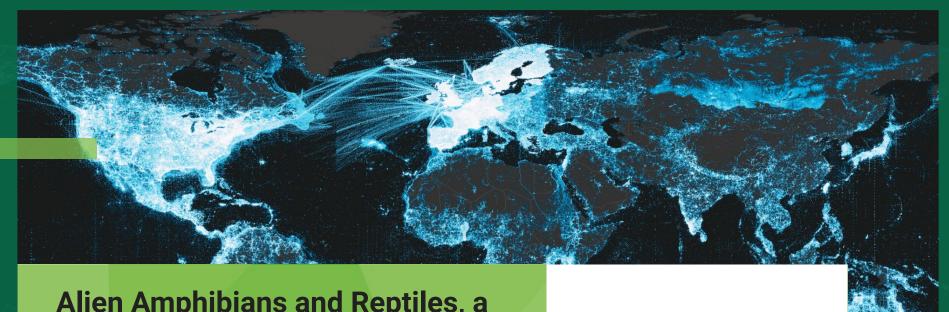


## Benefits of getting involved in GBIF

- Supports from the GBIF Team and other experts in bryophytes and lichens from all over the world, especially in identification, which is one of the biggest challenges.
- More publications & cooperation opportunities.
- Vietnamese bryophytes and lichens are now visible (without using hand lens)







### Alien Amphibians and Reptiles, a Threat to Philippine Biosecurity

Developing a National Invasive Alien Amphibian and Reptile Species Inventory and Occurrence Database and an Observation and Monitoring System



Biodiversity Information Fund for Asia (BIFA)



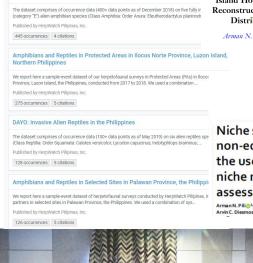
#### **Project objectives**

- (1) Assembling historical and geographical data from literature and natural history collections;
- Generating species occurrence and sampling-event data;
- (3) Reconstruct invasion histories and develop 'Pest Risk Maps';
- (4) Developing an observation and monitoring system;
- (5) Information campaigns and training workshops





- Occurrence and sampling-event datasets;
- (2) Data papers and data use scientific articles;
- (3) Information campaigns;
- (4) DAYO: observation and monitoring system.



DAYO: Invasive Alien Amphibians in the Philippines

Island Hopping in a Biodiversity Hotspot Archipelago: Reconstructed Invasion History and Updated Status and Distribution of Alien Frogs in the Philippines<sup>1</sup>

Arman N. Pili, <sup>2,3,8</sup> Emerson Y. Sy, <sup>3,4</sup> Mae Lowe L. Diesmos, <sup>3,5,6</sup> and Arvin C. Diesmos, <sup>2,3,7</sup>



Check for update

Niche shifts and environmental non-equilibrium undermine the usefulness of ecological niche models for invasion risk assessments

Arman N. Pilio 1,2,3 m, ReidTingley<sup>3</sup>, Emerson Y. Sy<sup>2,4</sup>, Mae Lowe L. Diesmos<sup>2,5,6</sup> & Arvin C. Diesmos<sup>2,2,7</sup>





### Project impacts and data relevance

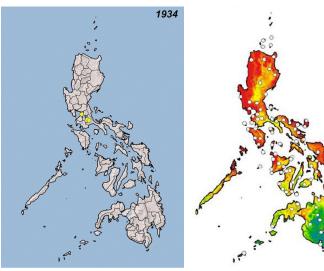
- (1) Encourage local natural history institutions to mobilize their data and use mobilized biodiversity data;
- (2) Advancing research on invasive alien and native amphibians and reptiles in the Philippines;
- (3) Fulfilling international commitments to biodiversity conservation and sustainability.

### Alien Species Crisis: Assessing the Ecological Impacts of Invasive Alien Species of Amphibians and Reptiles in the Philippines

"Research Manual on IAS Amphibians and Reptiles in the Philippines"



Rhinella marina Cane toad Invasion Status: Fully Invasive





Xuan Liu  $\odot$   $^{183}$ , Tim M. Blackburn  $\odot$   $^{2.3}$ , Tianjian Song  $^{1,4}$ , Xuyu Wang  $^5$ , Cong Huang  $^6$  & Yiming Li  $\odot$   $^{1,48}$ 



### Benefits of getting involved in GBIF























- (1) Strengthen and expand the local network of natural history institutions:
- (2) Expand our international network;
- (3) Leverage for support from the national government;

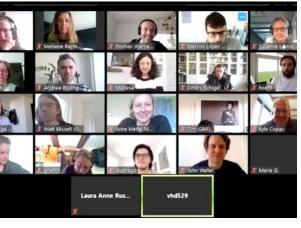


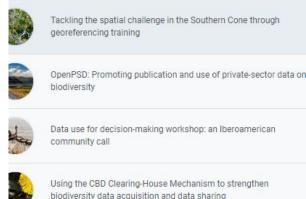


#### WHAT'S NEXT?

Data Mobilization Workshop for Asia 2020









#### **Online data** mobilization workshop

Support for 2020 BIFA projects and node teams

#### **GBIF** community webinars

Regular updates on **GBIF** activities targeting nodes and publishers

#### **GBIF Capacity Enhancement Support Programme**

- 2020 projects start in August
- Dates for next call announced in December

#### **GBIF** representation at **CBD** events

Side events at COP15





#### **WHAT'S NEXT?**









### **GBIF 2021 regional** meetings

In-person meeting for Asia?

#### **BIFA 2021**

- New call for proposals expected in 2021
- Announcement towards end of 2020

### Regional data publishing support

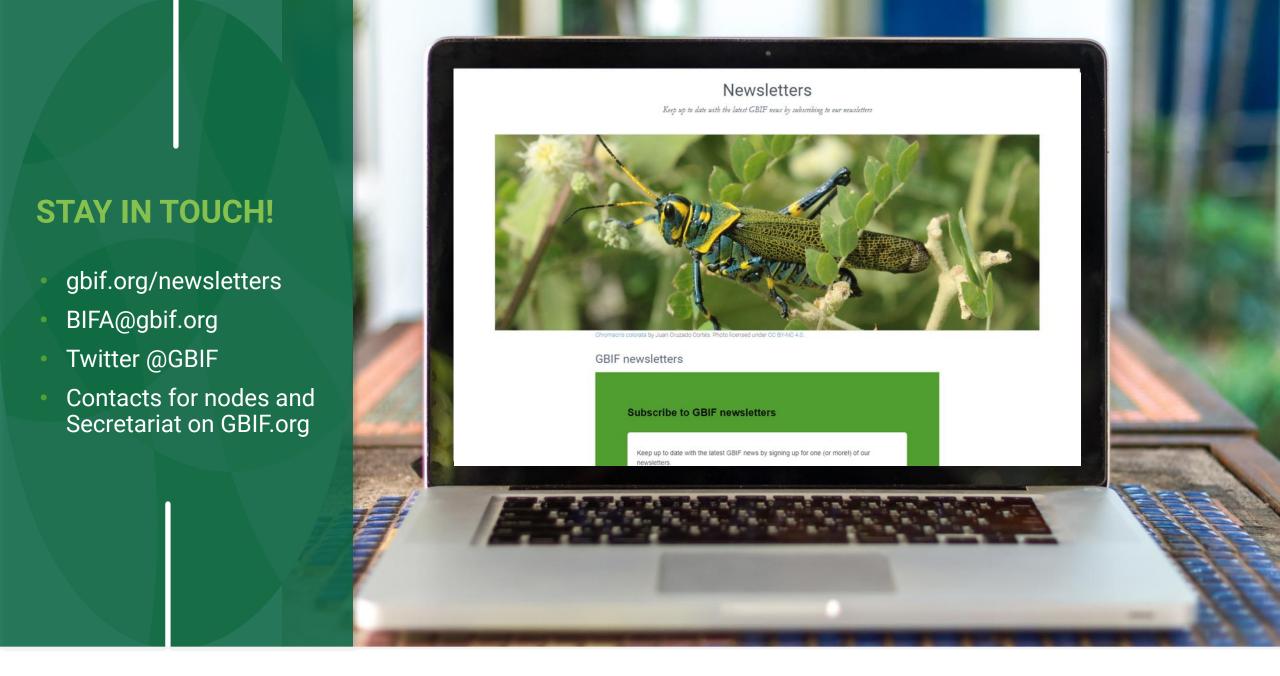
 Contact helpdesk@gbif.org

# Become a GBIF Participant country or organization

- www.gbif.org/ become-member
- Contact thirsch@gbif.org







### THANK YOU

mraymond@gbif.org



