OUTLINE

- GBIF mediated data in Asia
- Data mobilization from Asia
- Data gaps in Asia
- Data use in Asia
Types of data shared through GBIF

- Specimen
- Material sample
- Fossil
- Literature occurrence
- Observation
- Human observation
- Living specimen
- Machine observation

**sampling-event data**

Data derived from environmental, ecological and natural resource investigations that follow standardized protocols for measuring and observing biodiversity.

http://www.gbif.org/occurrence
• GBIF MEDIATED DATA IN ASIA

- **12.56 millions (7.95 georeferenced)**
- **8.52 millions (3.89 georeferenced)**

![Pie charts showing data distribution by category.](chart.png)
Animal occurrence records in Asia

- **India**: 2.88 millions
- **Japan**: 2.19 millions
- **Chinese Taipei**: 1.00 millions
- **Korea (Republic of)**: 0.88 millions
- **Indonesia**: 0.86 millions
- **Philippines**: 0.74 millions
- **China**: 0.64 millions
- **Thailand**: 0.60 millions
- **Malaysia**: 0.44 millions
- **United Arab Emirates**: 0.43 millions

Records with dates

- **India**: 2.71 millions
- **Japan**: 0.73 millions
- **Chinese Taipei**: 0.91 millions
- **Korea (Republic of)**: 0.05 millions
- **Indonesia**: 0.39 millions
- **Philippines**: 0.33 millions
- **China**: 0.43 millions
- **Thailand**: 0.36 millions
- **Malaysia**: 0.31 millions
- **United Arab Emirates**: 0.42 millions
Top 10 georeferenced animal records in Asia

- **India**: 2.5 million georeferenced human observation records
- **Chinese Taipei**: 0.5 million georeferenced human observation records
- **Japan**: 0.3 million georeferenced human observation records
- **China**: 0.2 million georeferenced human observation records
- **United Arab Emirates**: 0.2 million georeferenced human observation records
- **Indonesia**: 0.1 million georeferenced human observation records
- **Thailand**: 0.1 million georeferenced human observation records
- **Philippines**: 0.1 million georeferenced human observation records

*Georeferenced preserved specimen records*
Plant occurrence records in Asia

<table>
<thead>
<tr>
<th>Country</th>
<th>All Plantae records</th>
<th>Georeferenced Plantae records</th>
<th>Total with dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>1.74</td>
<td></td>
<td>1.18</td>
</tr>
<tr>
<td>Japan</td>
<td>1.39</td>
<td></td>
<td>0.52</td>
</tr>
<tr>
<td>Chinese Taipei</td>
<td>0.81</td>
<td></td>
<td>0.76</td>
</tr>
<tr>
<td>Indonesia</td>
<td>0.75</td>
<td></td>
<td>0.2</td>
</tr>
<tr>
<td>Korea (Republic...)</td>
<td>0.72</td>
<td></td>
<td>0.01</td>
</tr>
<tr>
<td>Afghanistan</td>
<td>0.49</td>
<td></td>
<td>0.05</td>
</tr>
<tr>
<td>India</td>
<td>0.45</td>
<td></td>
<td>0.16</td>
</tr>
<tr>
<td>Thailand</td>
<td>0.36</td>
<td></td>
<td>0.24</td>
</tr>
<tr>
<td>Malaysia</td>
<td>0.35</td>
<td></td>
<td>0.01</td>
</tr>
<tr>
<td>Philippines</td>
<td>0.25</td>
<td></td>
<td>0.07</td>
</tr>
</tbody>
</table>
Top 10 georeferenced plant records in Asia

- China: Millions of georeferenced preserved specimen records
- Japanese Taipei: Georeferenced observation records
- Japan: Georeferenced preserved specimen records
- Thailand: Georeferenced preserved specimen records
- Indonesia: Georeferenced preserved specimen records
- India: Georeferenced preserved specimen records
- Hong Kong: Georeferenced preserved specimen records
- Malaysia: Georeferenced preserved specimen records
- Pakistan: Georeferenced preserved specimen records

GBIF
Total data available and annual percentage change for selected taxonomic groups in Asia during 2016
Viet Nam

Names of countries, territories and islands are based on the ISO 3166-1 standard.

Data about Viet Nam

- 580 occurrence datasets with 300,851 records.
- No checklist datasets.
- No metadata-only datasets relevant to Viet Nam.
- 32 countries contribute data about Viet Nam.

View records shown on the map.
Countries, territories or islands publishing data about Viet Nam

- United States 140,646 occurrences, 78.55% geo-referenced.
- France 46,057 occurrences, 11.11% geo-referenced.
- Canada 31,532 occurrences, 86.98% geo-referenced.
- Netherlands 20,302 occurrences, 20.42% geo-referenced.
- United Kingdom 17,616 occurrences, 42.88% geo-referenced.
- Germany 16,426 occurrences, 80.24% geo-referenced.

View all 32 results...

Occurrence located in Viet Nam

<table>
<thead>
<tr>
<th>Specimen</th>
<th>Observation</th>
<th>Fossil</th>
<th>Living</th>
<th>All (incl. &quot;unknown&quot;)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animalia</td>
<td>104541</td>
<td>50908</td>
<td>126540</td>
<td>126048</td>
</tr>
<tr>
<td>Archaea</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Bacteria</td>
<td>90</td>
<td>8</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Chromista</td>
<td>180</td>
<td>36</td>
<td>19978</td>
<td>19978</td>
</tr>
<tr>
<td>Fungi</td>
<td>481</td>
<td>158</td>
<td>48</td>
<td>0</td>
</tr>
<tr>
<td>Plantae</td>
<td>96803</td>
<td>41152</td>
<td>76</td>
<td>70</td>
</tr>
<tr>
<td>Protozoa</td>
<td>8</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Viruses</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Unknown</td>
<td>371</td>
<td>31</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>202795</td>
<td>92370</td>
<td>149494</td>
<td>148948</td>
</tr>
</tbody>
</table>
Viet Nam

This report provides a series of summary charts, statistics and other details about the mobilization and use of open-access species data through the GBIF network at global and national scales. These metrics represent change over the past 12 months, unless otherwise noted. Taken together, the elements of this report can help guide and measure progress toward the information needs for national and international commitments on biodiversity and sustainable development.

> Access and usage

![Bar chart showing access and usage](image)

Figure 1. Number of peer-reviewed publications citing use of global GBIF-mediated data

Researchers from Viet Nam contributed to 1 peer-reviewed articles citing GBIF use during this reporting period and a total of 2 articles since 2008

> Data availability in Viet Nam

![Data availability chart](image)

Animalia: 172,431 occurrences (+42%)
Plantae: 110,238 occurrences (+68%)
Fungi: 627 occurrences (+6%)
Unknown: 2,104 occurrences (+5%)
Protozoa: 20 occurrences (+25%)
Bacteria: 223 occurrences (+39%)
Virus: 1 occurrence
Chromista: 10,209 occurrences (+1%)
Archaea:
### DATA MOBILIZATION FROM ASIA

#### Top 10 of data availability

<table>
<thead>
<tr>
<th>Country</th>
<th>Data Contributors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>USA, GBR, COL</td>
</tr>
<tr>
<td>India</td>
<td>USA, GBR, COL</td>
</tr>
<tr>
<td>China</td>
<td>CHN, USA, GBR</td>
</tr>
<tr>
<td>Chinese Taipei</td>
<td>TWN, USA, DEU</td>
</tr>
<tr>
<td>Indonesia</td>
<td>NLD, USA, AUS</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>KOR, USA, COL</td>
</tr>
<tr>
<td>Philippines</td>
<td>USA, NLD, GBR</td>
</tr>
<tr>
<td>Thailand</td>
<td>USA, GBR, JPN</td>
</tr>
<tr>
<td>Malaysia</td>
<td>USA, NLD, GBR</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>USA, FRA, CAN</td>
</tr>
</tbody>
</table>

- eBird Observation Dataset: 2.5 million records
- TOP One contributor: IND
Data published by others

Self-published data

Georeferenced data

India: 0.53 million

China: 1.10 million

ROK: 1.66 million

Japan: 0.98 million

Chinese Taipei: 1.02 million
DATA GAPS IN ASIA
Worldwide data coverage

Data from GBIF, picture available from Map of Life https://mol.org/indicators/coverage
Data from Index Herbariorum

- Number of plant specimen in Herbaria of Asia: 68,247,402
- Number of plant specimen occurrence records in GBIF: 6,035,877
- Number of georeferenced plant specimen records in GBIF: 2,428,311
## DATA USE IN ASIA

### Web traffic from Asia in 2016

<table>
<thead>
<tr>
<th>Country</th>
<th>Sessions</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>100,826</td>
</tr>
<tr>
<td>Indonesia</td>
<td>33,765</td>
</tr>
<tr>
<td>Japan</td>
<td>28,798</td>
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<tr>
<td>Philippines</td>
<td>28,491</td>
</tr>
<tr>
<td>China</td>
<td>19,828</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>17,197</td>
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<tr>
<td>Malaysia</td>
<td>16,805</td>
</tr>
<tr>
<td>Thailand</td>
<td>15,925</td>
</tr>
<tr>
<td>Iran</td>
<td>13,045</td>
</tr>
<tr>
<td>Chinese Taipei</td>
<td>11,973</td>
</tr>
</tbody>
</table>

### Data downloads from Asia in 2016

<table>
<thead>
<tr>
<th>Country</th>
<th>Times</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>3,490</td>
</tr>
<tr>
<td>China</td>
<td>3,052</td>
</tr>
<tr>
<td>Japan</td>
<td>703</td>
</tr>
<tr>
<td>Iran</td>
<td>544</td>
</tr>
<tr>
<td>Philippines</td>
<td>390</td>
</tr>
<tr>
<td>Chinese Taipei</td>
<td>247</td>
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<tr>
<td>Republic of Korea</td>
<td>242</td>
</tr>
<tr>
<td>Singapore</td>
<td>146</td>
</tr>
<tr>
<td>Indonesia</td>
<td>140</td>
</tr>
<tr>
<td>Nepal</td>
<td>81</td>
</tr>
</tbody>
</table>

### Web traffic

- Asia: 22.61%
- Data download: 10.14%
Number of papers published in Asia that used GBIF data

- **Peer-reviewed articles during 2016**
- **A total number of articles since 2008 (by the end of 2016)**

Asia 19.63%
Online survey: Understanding the acquaintance level with primary biodiversity data and knowledge about GBIF in Asia

Purpose of Survey

The Global Biodiversity Information Facility (GBIF), an inter governmental organization, facilitates a discovery and publishing mechanism for free and open exchange/sharing of existing biodiversity data, and is the predominant international, publically funded resource for species occurrence data.

The objective of this survey is to understand the acquaintance level with primary biodiversity data and knowledge about GBIF in a wide biodiversity research and conservation field, as well as the needs across Asia user communities, and to identify the gaps in biodiversity data presently accessible through GBIF (www.gbif.org), and make recommendations on data mobilisation strategies to bridge the gap between data needs and data access. The ultimate goal is to provide guidance to GBIF and its data publishers network, in order to improve fitness for use and utility of GBIF mediated data.

There are 33 questions (some are optional), taking most people under 20 minutes. Obligatory questions are marked with "***". If you have any questions about the survey, please contact with us (mluo@gbif.org).

Usage of biodiversity data
Compare Asia data with other regions

Europe

113.82
107.14
8.11

Latin America

31.48
17.90
0.60

Asia

12.48
8.51
0.23

Images from Wikipedia
THE NEXT…

Fill the data gap
  Digitized specimen
  Citizen science

Data Fitness for Use
  Georeferenced records
  Date tagged records

The 2017 Ebbe Nielsen Challenge
Award €14,000 in prizes to developers and hackers who create tools capable of liberating species records from open data repositories for scientific discovery and reuse
Thank you!