Day 1

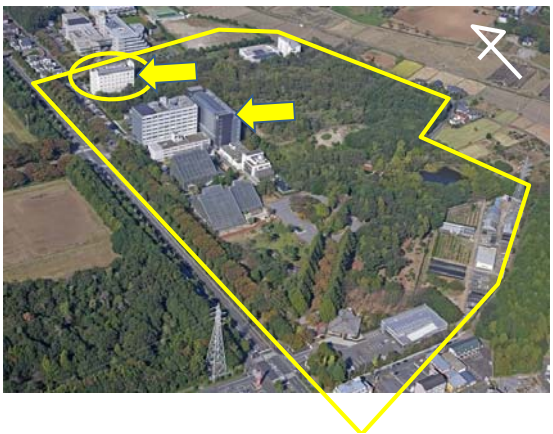
Time	Agenda item	Content	Leader / Coordinator
8:30-9:00	Registration		All
9:00-9:40	Opening programme	Welcome address Self-introduction Input from GBIF secretariat Aims of the meeting	Vergara, Hosoya, Shibata All GBIFS Hosoya
9:40-12:00	Node status reports Group photo	Activity in each node delegate's country/organization	Each node All
12:00-13:30	Lunch (Rm. 801)		
13:30-14:30	Selection of next Asia representative	GBIF secretariat to advice and facilitate the process	All
14:30-17:00	Progress review on strategic plans	• Assessment of activities of strategic plans focusing Scientific Theme 1 (Check list) • Special lecture1: FishBase, A key biodiversity information system • Special lecture2: Migratory birds data base	Hosoya / Vergara Capuli Nishiumi
18:00	Dinner		

Welcome address

Sheila Vergara (ACB), Asia Regional Representative
Kunihiko Shibata (MOE), HoD, Japan
Tsuyoshi Hosoya (NMNS), Node Manager, Japan

National Museum of Nature and Science

Major functions
Research, Education, Collection building
Five Departments
Dept. of Botany
Dept. of Zoology
Dept. of Geology
Dept. of Anthropology
Dept. of Science & Technology
Two Institutes for Nature Research
Tsukuba Botanical Garden
Institute for Nature Study (Meguro, Tokyo)
Total numbers of specimens disclosed: 1.18Mil.
(incl. 0.32 Mil. Obs. Data for seasonal changes)
Mainly specimen data, not observation data.



House keeping information

- Location of the building
- Card keys entrance/ Exit
- Microphones for recording purpose
- Bath Rooms
- Lunch
- Dinner

Self-introduction

Name, Affiliation, Background,
Any expectation to the meeting

Input from GBIFS

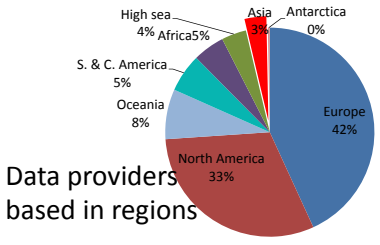
Background / Aims of the meeting

GBIF Strategic Plan 2012-2016

2001-2006	Proving the concept
2007-2011	Towards full operation
2012-2016	**Seizing the future**

Vision: A world in which biodiversity information is freely and universally available for science, society, and a sustainable future.

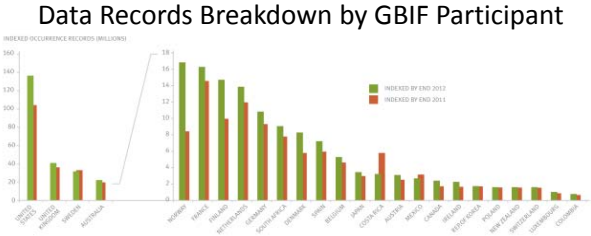
Mission: To be the foremost global resource for biodiversity information, and engender smart-solutions for environmental and human well-being.



More data from Asia expected

Data providers based in regions

Data Records Breakdown by GBIF Participant



Asian Regional Meeting

1. 2009.9. Thailand
2. 2010.11. India
3. 2012.3. Japan
   Sheila Vergara (ACB)erected as an Asian representative
4. 2012.6. Taiwan
   Strategy composed

GBIF Strategic Plan 2012-2016

1.Advance the digital content

Ensure scientific fitness-for-use, impact, comprehensiveness, and access to new data domains.

2.Advance the informatics infrastructure

Ensure the most effective distribution, open access, discovery and use, of GBIF-mediated data.

3.Advance the engagement

Ensure that GBIF benefits the widest global audience-increasing participation and partnerships, capacity and newworking.

Global, Regional, and National…

Asian Regional Strategy

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

1. Making species checklist at national level, including invasive, Red List, endemic species and migratory birds.
2. Updating fish databases to assess fish biodiversity loss and risk in Asia.

Workshop on integrated Red List/Invasive Species List / Check List in East Asia

2013.3.12-13. in Tsukuba, Japan

国立科学博物館 National Museum of Nature and Science

GBIF JAPAN

ESABII East and Southeast Asia Biodiversity Information Initiative

1. Promote understanding of the importance of the Red List (RL), Invasive Species List (IL) and Check List (CL)
2. Survey current status of RL/IL/CL in East Asia
3. Determine strategy for integration of RL/IL/CL in East Asia

"To Do" in this meeting

1.Erection of the new Asian representative.

2.Sharing information among the Nodes to know each other's current status.

3.Review and updating the regional strategic plans, in particular working plan on fish database.

4.To draw other outcomes to be brought up to GB21.

Node status report

- Each Node to report the status in 10 minutes.
- Skip contents about strategy.

Selection of the next Asia Regional Representative

Special lecture

Lecture 1 Dr. Emily Capuli, FishBase

Lecture 2 Dr. Nishiumi, National Museum of Nature and Science

Asian Nodes meeting 17-18 July 2014
Tsukuba, Japan

Progress and a look forward

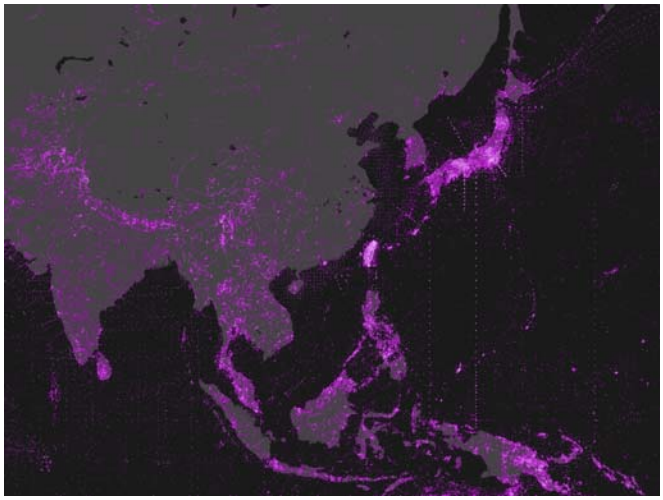
Olaf Bánki
Senior Programme Officer for Participation

Oliver Meyn
Senior Software Developper

Global Biodiversity Information Facility (GBIF)

Participation in Asia

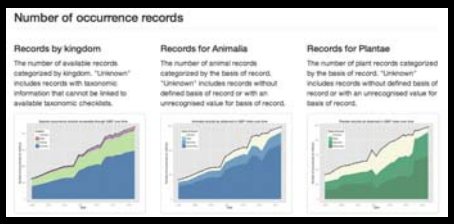
2 Voting Participants
4 Associate Country Participants +
1 economy and 3 Associate organization Participants



Improvements to Country pages

Improved Nodes descriptions: *please contribute!*

New analytics on data publishing per Participant since 2007:
have a look and tells us your impressions



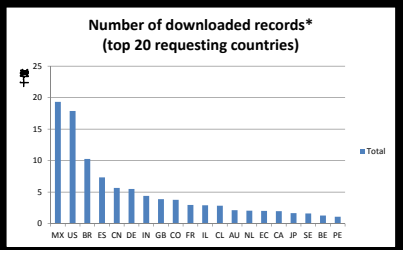
analytics.gbif-uat.org

Progress on GBIF.org

Near real-time indexing (Nov. 2013)

5,000 - 7,000 users per day

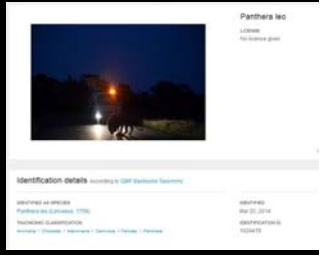
115,161,749,776 records downloaded
- **9 months**
- **Darwin Core Archive format**



Progress on GBIF.org

Widened Occurrences
Richer occurrence records (all DwC terms)

Multimedia from Occurrences
Images shown, links to audio & video
Search for records with multimedia enabled



Forthcoming GBIF.org changes

July 2014:
- Stable API at v1 (currently v0.9)
- BioCASe and DiGIR interpretation for richer occurrences

Later in 2014:
- Revised checklist indexing (index within hours)
- Support for sample-based data registrations
- Support for DOIs on published datasets
- Improvements in stability and robustness

IPT update

April 2014:
- Version 2.1 released
- Enforces present and unique dwc:occurrenceID on each record
- Supports Excel files natively (not just CSV)
- Translated into Japanese
- Bug fixes
  - Notably the successful completion of the independent security audit from Japan

Scheduled for Q4 2014:
- Support for DOIs for datasets
- Enforce BasisOfRecord for each record
- Machine readable licenses for each dataset
- Auto-generated citations (including DOI) to ease citability

Nodes portals

- **NPT Startup early adoption programme:** expression of interest by 12 GBIF Participants
- Benin-Costa Rica **Drupal implementation** deployed
- mentoring project between Mauritania, Togo and Belgium **evaluating the use of NPT Startup** (June 2014)
- **Evaluation of ALA tooling** by France, Spain, Belgium, Costa Rica, Argentina, South Korea, Sao Paulo University (workshop Canberra, July 2014)

GBIF Licensing Consultation

Review of responses available at GBIF.org – discussion and decision at GB21

1. Should GBIF require a completely free (CC0) licence for all data?
2. What other factors which should be considered?
3. What are the risks, in particular around losing data publishers?
4. Would you like to help to create documentation on this topic?

49 responses received

Voting Participants (14): Finland, Benin, Republic of Korea, Germany, Norway, Ireland, Argentina, Sweden, Colombia, South Africa, Madagascar, Netherlands, Mexico, United Kingdom

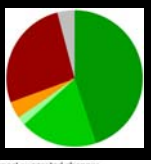
Associate Participant Countries (3): Austria, Brazil, Israel

Associate Participant Organisations (1): Society for the Management of Electronic Biodiversity Data (SMEBD)

Other institutions or individuals: 25 responses

Anonymous responses: 6 responses

Responses to question 1



GBIF Endorsement Consultation

Review of responses available at GBIF.org – discussion and decision at GB21

1. Do you support proposed changes for endorsing data publishers?
2. Should GBIF manage fitness-for-use indicators for all data sets?
3. What enhancements would you propose?

32 responses received

Voting Participants (16): Andorra, Argentina, Benin, Colombia, Costa Rica, Finland, Germany, Republic of Korea, Madagascar, Mexico, Netherlands, Norway, South Africa, Sweden, United Kingdom

Associate Participant Countries (3): Central African Republic, Israel, Switzerland

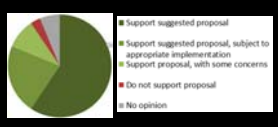
Associate Participant Organisations (2): Albertine Rift Conservation Society (ARCOS), Society for the Management of Electronic Biodiversity Data (SMEBD)

Other institutions or individuals: 6 responses

Anonymous responses: 5 responses

Responses to question 1

Responses to question 2



GBIF and IPBES

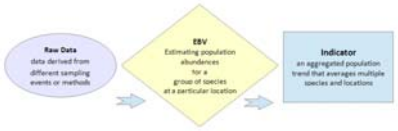
- GBIF mentioned as data source for IPBES assessments, e.g. fast-track assessment on pollination and pollinators associated with food production; thematic assessment on invasive alien species
- IPBES setting up task force on knowledge and data, responsibilities including: data management, data access, data standards, reviewing gaps and catalysing knowledge/data generation

GBIF and GEO BON

- GBIF Secretariat member of GEO BON steering committee
- GBIF source of data for associated projects (e.g. Digital Observatory for Protected Areas - http://dopa.jrc.ec.europa.eu/)
- GBIF partner in EU BON (http://www.eubon.eu/), main role in: data standards/interoperability; providing metadata registry; data access through robust web services

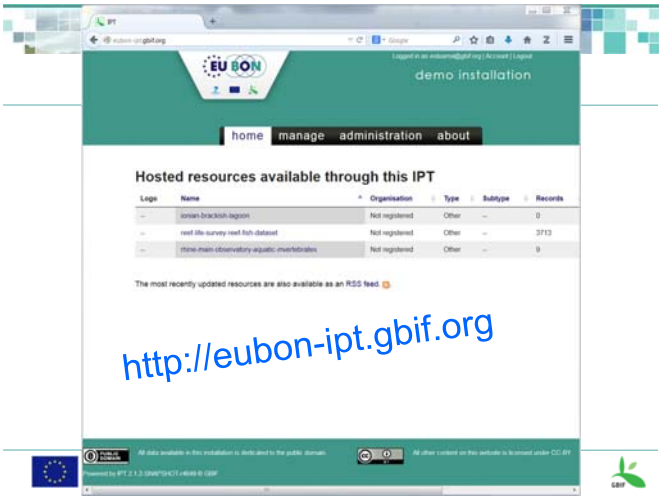
Essential Biodiversity Variables

EBV acts as an intermediate layer between raw data and indicators



GEO BON has identified six EBV classes

EBV Class	Genetic composition	Species populations	Species traits	Community composition	Ecosystem structure	Ecosystem function
EBV example	Allelic diversity	Abundances and distributions	Phenology	Taxonomic diversity	Habitat structure	Nutrient retention



Extension

eventID	scientificName	quantity	quantityType
C_1428	*Baetis rhodani*	14	individuals
C_1428	*Ephemera danica*	12.2	individuals
C_1428	*Gyraulus albus*	3.4	individuals
C_1538	*Serratella ignita*	9.2	individuals

Core

eventID	event Series	sampling Protocol	sampling Effort	sampling Geometry	sampling Unit	event Date	location	decimal Latitude	decimal Longitude	...
C_1428	AN_351	AQEM	5	area	metre^2	1963-03-01	Kinzig O3 Rothenberge n	48.1333	11.5667	...
C_1538	AN_351	AQEM	5	area	metre^2	1975-01-21	Kinzig W1 Bulau	-34.6033	-58.3817	...

http://rs.gbif.org/sandbox/core/dwc_event.xml

GBIF and CBD

- GBIF coordinates **Global Invasive Alien Species Information Partnership (GIASIP)** on behalf of CBD (http://giasipartnership.myspecies.info/) Aims to play significant role in providing information needs for governments to achieve Aichi Target 9
- GBIF contributed to the **4th Global Biodiversity Outlook (GBO4)**, especially in the section on Target 19 where the growth of GBIF records is used among the indicators of progress towards the Aichi Targets. The **Global Biodiversity Informatics Outlook framework** is cited as a means to direct government action towards sharing and use of knowledge and data.

Shift to capacity enhancement

Holistic concept of capacity
- Individual
- Organizational
- Enabling environment

Clear phases
- Assessment
- Design
- Implementation

Empower the recipient
- Self assessment of needs
- Adapt to local context
- Build on existing capacity

Comprehensive solutions
- Short term, result based
- Long term, complex

A new capacity enhancement programme

A call for projects was sent around earlier in the year
Six concept notes selected to present full proposals by 18 July
Total of 40.000 Euro available in 2014
Final selection of projects will be announced by end of July 2014

Next call expected Q1 2015

Towards a strategy for capacity enhancement

- A development plan for the Capacity Enhancement strategy was circulated to Nodes 30 April
- Nodes invited to contribute to preparation
- Three representatives from the GBIF community have expressed interest in working with GBIFS

First draft to be circulated to Nodes mid-August 2014

How to move forward at the regional level?

- What are the next steps in the collaboration?
- Need for use cases where GBIF mediated biodiversity information is altering policy
- We need unique selling points at the national, regional, and global levels

www.gbif.org

Chinese Academy of Sciences Node of GBIF

Biodiversity Committee, CAS
Yinan Liu

July 2014

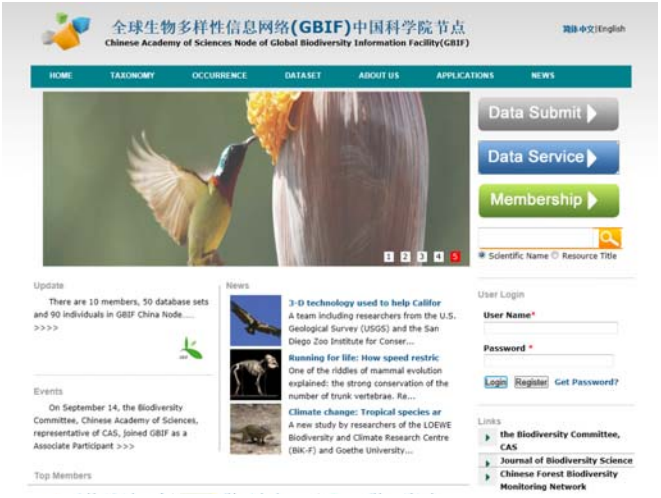
The Biodiversity Committee,CAS launched the GBIF-CAS node in Shanghai, China, and has started work on a data portal.

The launching ceremony of GBIF-CAS Node was held in September 14, 2013

The 3rd National Symposium on Biodiversity Informatics

Internal working meeting

Right after the launching ceremony, the first meeting of working group was held, invited Burke from the Secretariat to attend the meeting.



GBIF-CAS Node

Institute	Name	Duty
Institute of Botany CAS	Keping Ma	Head of Delegation
Institute of Zoology CAS	Liqiang Ji	database manager Expert in Zoological Taxonomy
Institute of Botany CAS	Haining Qin	database manager Expert in Botanical Taxonomy
Institute of Botany CAS	Zheping Xu	Node Manager
Biodiversity Committee CAS	Yinan Liu	Communication / Secretarial support

Other staff members who worked in the Coordination Unit…

Introducing Our Ongoing Projects on Biodiversity Informatics

CAS is active in many biodiversity informatics activities globally and in the Asian region, including the establishment of:

- Asia Biodiversity Conservation and Database Network (**ABCDNet**)
- National Specimen Information Infrastructure (**NSII**)
- Catalogue of Life China-Annual Checklist(**COL-China**)
- China Plants Red List

News in June 24th, 2014

This dataset represents just a small portion of overall collections in NSII, which contains
7.6 million plant specimens
2.8 million animal specimens
more than 100,000 mineral or non-biotic specimens.

By working with other NSII institutions to introduce consistent data management standards and workflow processes, CAS and GBIF expect their ongoing partnership will significantly increase the volume of openly-accessible biodiversity data from China, filling information gaps and enabling new research.

National Specimen Information Infrastructure

http://www.nsii.org.cn

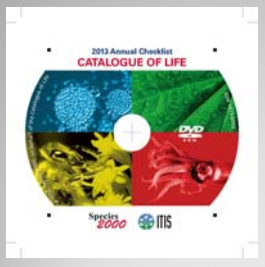
10,613,337 Specimens distributed in 6 sub-platforms

Plants
Animal
Education
Nature Reserves
Rock fossils
Polar regions

NSII resources

Names: 2,646,067
Images: 157,991
Videos: 1,770 pieces
Literature: 126,000 volumes
Items: 110 million
datasets: 100+

2013 COL-Chinese version



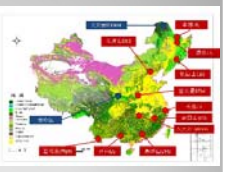
Since 2013, we have started to help produce and distribute CDROMs of Species 2000, and ITIS, and translated the Introduction into Chinese.

We not only collect data,
share data,
but also create data.

Chinese Forest Biodiversity Monitoring Network CForBio

http://www.cfbiodiv.org

Monitoring Areas



By the end of 2013, 12 permanent plots with the size over 9 ha have been set up by CForBio.

Chinese Forest Biodiversity Monitoring Network

- Established in 2004, it is a research base for monitoring changes
- in biodiversity of forest ecosystems in China, and also an important part of glo bal forest biodiversity monitoring network (CTFS).
- By the end of 2013, CForBio has made great progress, camera trapping data
- sharing has been realized in plots. Multidisciplinary research has been carried out, such as monitoring on
- **mammal diversity**
- **bird diversity**
- **soil arthropod diversity**
- **microorganism diversity**
- **root system and carbon cycle and forest gap dynamics.**
- CForBio is becoming an integrative biodiversity research platform.

More importantly,
it will provide
big data
in the near future.

Thank you

Biodiversity Committee, CAS
Yinan Liu

July 2014

Spotlight on TaiBIF National Activities (2013-2014)

Kwang-Tsao Shao and TaiBIF team members

Biodiversity Research Center, Academia Sinica, Taiwan

Reported by Yu-Huang Wang, TaiBIF Node Manager

5th GBIF Asia Nodes Meeting, Tsukuba, Japan, 2014/07/17

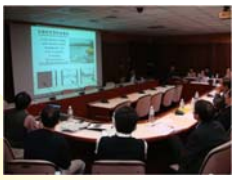
1

全球生物多樣性資訊機構(GBIF)中華民國委員會會章

GBIF-ROC includes committee members from researchers and experts of universities and organizations as well as governmental representatives, working together to promote biodiversity data integration and sharing.

Bylaw

Chapter 1 Facilitate government to promote open data as well as the integration of national biodiversity information across agencies and databases; work with GBIF to facilitate collaboration and to engage knowledge dissemination and data sharing in international.



2

GBIF-ROC
The 2nd committee meeting in 2013

* Publications supported by governmental funding must be labeled with CC-By public domain open license.
* Open data policy must be included in the contract of governmental supported projects.

Updated National Biodiversity Action Plan to align with Aichi Targets in 2014

具體工作	主(協)辦機關及執行期程	績效指標
D11010 就台灣陸域及海域生物多樣性可能的熱點(含重要遷徙路徑與廊道)進行調查並確認之	科技部(國科會)、農業部(農委會)、環資部、(中研院、教育部、內政部)/100年12月	1. 完成潛在熱點清單(包含地點、範圍及原因) 2. 根據前項清單，完成調查及確認的熱點數量
D12010 生物多樣性資訊交換機制與各類或各機構資料庫之建置與整合，並定期增修補充各項資料庫之內容(**持續推動生物多樣性資訊(含名錄、生態分布、物種百科、標本、文獻、影音等)之公開及增修訂，與環境、海洋、國土資訊等其他相關領域資料庫整合，並與國際接軌**(GBIF, IUCN, OBIS, EOL, GEOSS, GEO-BON等))	科技部(國科會)、(農業部(農委會)、中研院、內政部、經濟部、原民會、衛生署、教育部、環資部(環保署)、交通部)持續辦理	1. 各部會單位蒐集及已公開分享之原始生物多樣性資料數量及增加的筆數 2. 生物多樣性資訊應用於政策調整、擬訂行動計畫、促進生物多樣性保育與永續利用之件數
D12020 加強分類學能力建設，逐年完成台灣各類動物、植物與微生物誌之編撰與修訂(**加強分類學能力建設，包括聘用分類人才、標本典藏(含遺傳物質、組織標本)、生物誌編撰及增修訂、全國或區域性物種多樣性之普查及編目**)	科技部(國科會)、農業部(農委會)、(中研院、教育部、內政部、環資部(環保署)、文化部、原民會、交通部)/100年12月	1. 分類人才總數及增聘人數 2. 已登錄之典藏標本總數與年增加數 3. 完成台灣重要生物誌之數量
D12030 **加強生物多樣性價值及功能之研究(特別是生態系服務、生態系暨生物多樣性經濟學等)**	科技部(國科會)、農業部(農委會)、(中研院、教育部、內政部、環資部(環保署)、原民會、交通部)/100年12月	1. 生物多樣性價值及功能之研究項目數 2. 提報生物多樣性價值及功能研究之經費比例

4

Integrate national databases for mapping to international portals

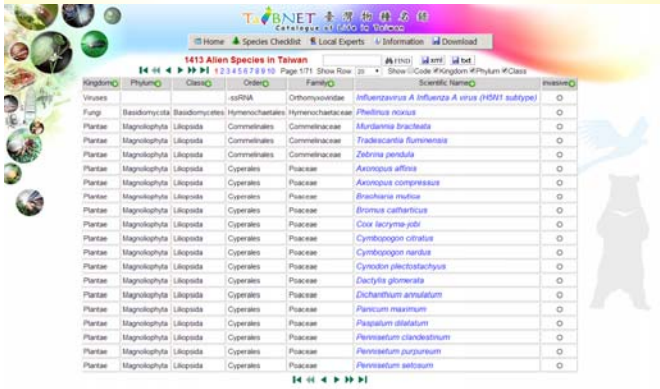
* Collaborate with international organizations and estalished TaiBNET (TaiCOL)、TaiBIF、TaiBOL、TaiEOL

Catalog of Life in Taiwan (TaiCOL)

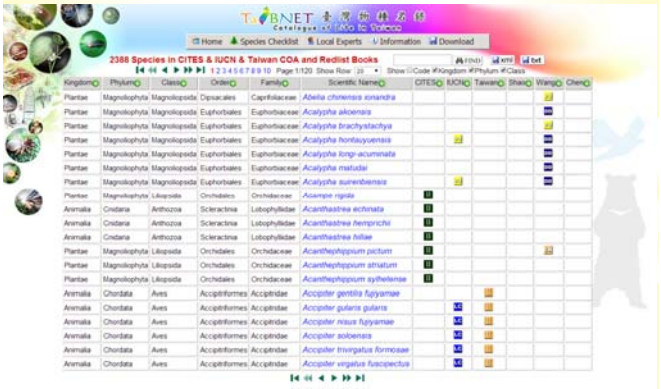
http://col.taibif.tw

http://taibnet.sinica.edu.tw → TaiCOL → col.taibif.tw

Checklist of alien species: 1413 species (224 IAS)

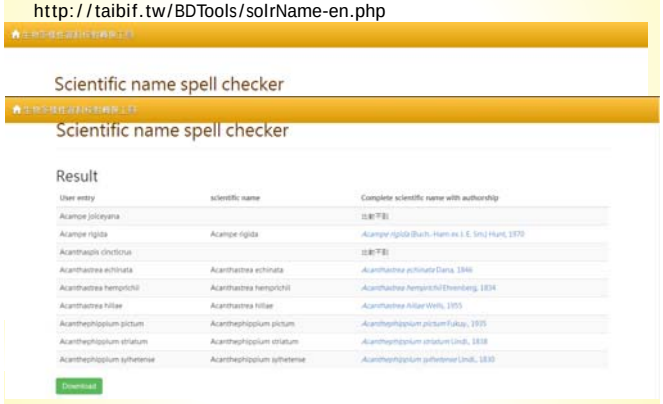


2388 Species in CITES & IUCN & Taiwan COA and Redlist Books



TaiBIF Scientific name matching service

http://taibif.tw/BDTools/
http://taibif.tw/BDTools/solrName-en.php



9

Databases using TaiCOL

* TaiBIF
* TaiEOL
* TELDAP (e-Learning & Digital Archive Projects)
* NGIS Ecological Resources Database
* Long-term ecological monitoring system in Shuei-Pa National Park
* Ecological information system of
* Ecological resources management system of Fishery Bureau
* Moth inventory database of TESRI
* EIA ecological survey database

10

EOL – Chinese UI

*TaiBIF help the UI translation

繁體中文介面於2013年10月上線

11

2013 TaiEOL workshop

Invite NGOs and citizen scientists to join and collaborate on data sharing

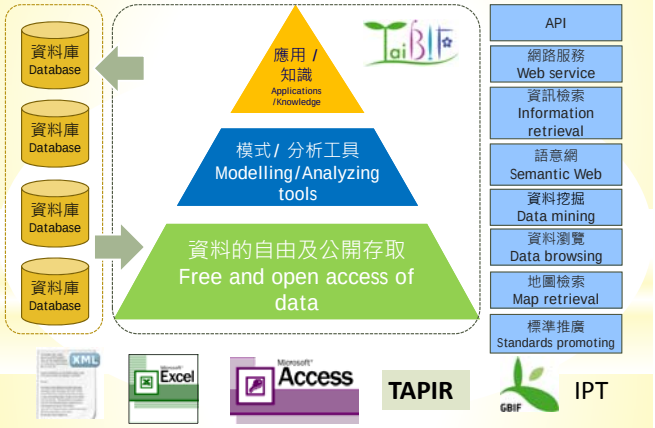
時間	講題	主講人
10:00-10:05	報到入場	
10:05-10:10	開幕致詞	邵廣昭博士
10:10-10:15	貴賓致詞	林務局/特生中心
10:15-10:45	基於開放授權與公民參與的台灣生命大百科(EOL)計畫	許正欣先生
10:45-11:15	台灣生命大百科的社群參與與平台簡介	李香蘭小姐
11:15-12:10	鑽木甲蟲的黑暗世界	劉藍玉博士
12:10-13:00	午餐	
13:00-13:50	何謂創用CC-資料使用及授權說明	林誠夏先生
13:50-14:40	熱血阿傑的自然觀察日記—從業餘愛好者到公民科學家	黃仕傑先生
14:40-15:00	茶敘	
15:00-15:50	公民科學家學術研究實例—台灣金花蟲多樣性調查	李奇峰博士
15:50-16:00	綜合討論、閉幕	邵廣昭博士

TaiBIF (http://taibif.tw)

Sponsored by:
2003.12 – 2004.12 NSC
2005.08 – 2005.12 COA
2006.08 – 2015.07 NSC
2013 – AS

13

Information Infrastructure

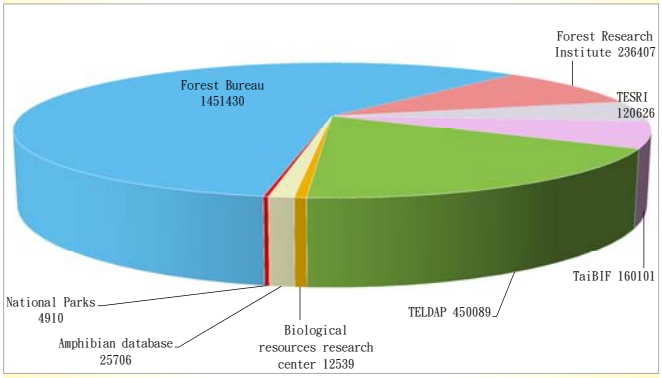


New & updated data in 2013

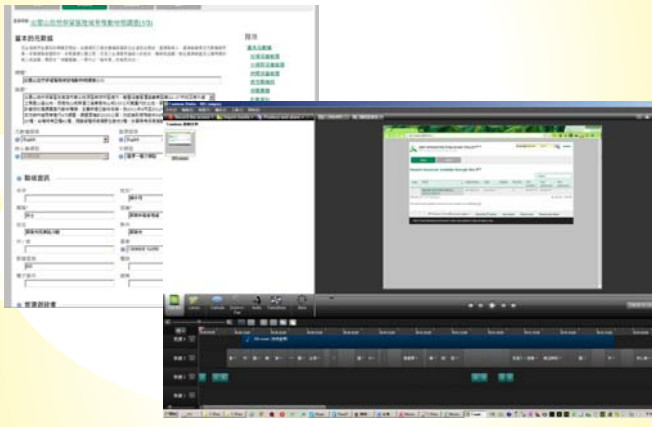
- New
  - FB – National vegetation mapping project: 699,535
  - FB – Inventory of conserved species: 29,108
  - TESRI: Moth on FaceBook: 11,136
  - AS - A dataset from bottom trawl survey around Taiwan: 3,529 records (data paper)
  - AS - Molluscan fauna of Gueishan Island, Taiwan:151 records (data paper)
- Updated
  - FB – Ecological Resources Database: 730,026
  - AS - Herbarium : 84,866 + 6517 specimens + 1166 photos
  - NMNS: 41,151 (animals, plants, fungi)
  - TESRI – Moth database: 9136

Data sources and quantities

- 8 data providers
- 32 data packages
- 2.53 millions recorders



IPT2 online tutorial video



Developing web services & Tools

http://aibif.org.tw/BDTools/

Tools and services for verifying :

- Scientific/vernacular names
- Geographic coordinates

18

Facilitate data integration from Metacat into IPT2

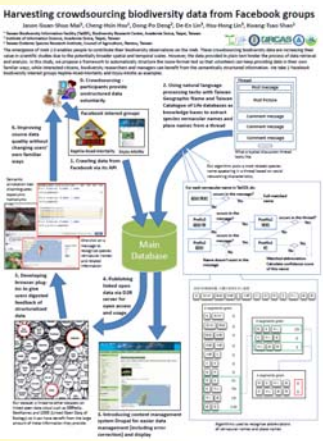
19

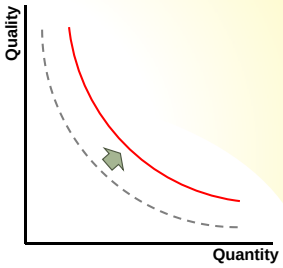
Collaboration with other information platform

Automatic tagging and linking name to TaiBIF

Using Facebook as a platform for citizen science activity to collect data of roadkills - collaboration with TESRI & ISIAS

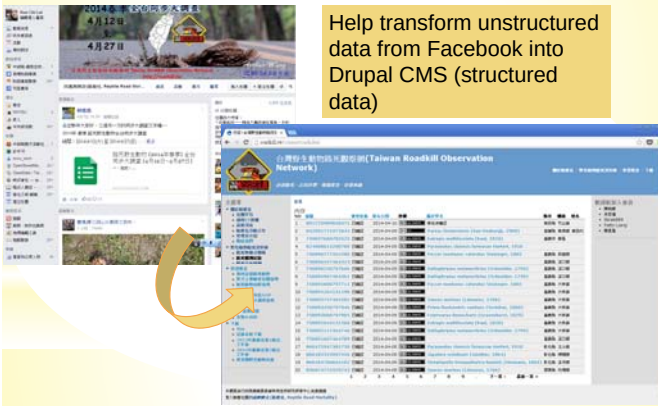
Tools for data QA/QC for roadkill records from Facebook





SCBAsia 2012 (poster)
GEOCROWD 2012 (full paper)
JIST 2012 (full paper in LNCS, Springer)
LDOW 2014 (full paper)

Roadkills website content management



Help transform unstructured data from Facebook into Drupal CMS (structured data)

GBIF Gbits – Data sets from Taiwan

發佈慕光之城蛾類世界資料庫

GBits_2013 September

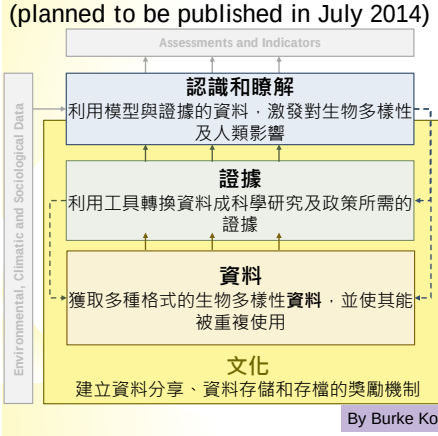
發佈數位典藏資料集

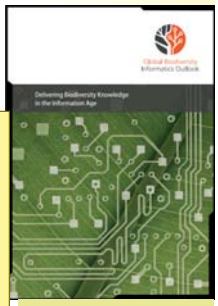
GBits_2014 March

26

Translate GBIO into Chinese

(planned to be published in July 2014)





校對中，預計7月份出版

By Burke Ko

2013 International Open Data Conference

2013/11/20~22 Taipei

Open Data International Conference 2013

- GBIF
- AP-BON
- EU-BON
- JBIF
- NEON(US National Ecological Observation Network
- DataONE

Data publishing (Datapaper)

- Pensoft
- Ecological Research
- Thomson Reuters (Data Citation Index, DCI)

Thank you for your attention

TaiBIF

facebook
遇見生物多樣性粉絲團

Presentation outline

- Gneisses
- Recent activities

भारतीय वन्यजीव संस्थान
Wildlife Institute of India

Gautam Talukdar
Node Manager – India
gautam@wii.gov.in

Date :16th July 2014

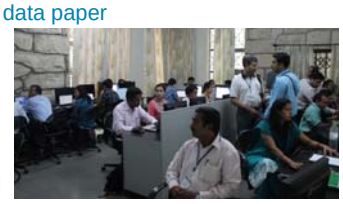
GBIF – India Node - 2002

August 2009, work relating to GBIF was transferred to Ministry of Environment, Forests and Climate Change (MEFCC) from Council for Scientific and Industrial Research (CSIR)

Training Workshop on the "Promotion of Metadata Use and Data Paper Publication" from 19th to 21st June 2013

Twenty one participants from National/International organisations

- The workshop provided inputs in the following themes:
- biodiversity data publishing through the GBIF network;
- integrated publishing toolkit;
- documenting metadata;
- authoring and publishing a data paper



Data digitalization and publishing of multimedia biodiversity data

- Large volumes of camera-trap images held in various institutions/individuals
- Can be used in policy and knowledge-based decision-making
- Need for standardized metadata regime to enable free sharing, access and dissemination
- Challenges in using camera-trap data:
  - Cataloguing huge number of digital photographs.
  - Systematic storage and easy retrieval.
  - Need for standard data management protocols.
  - Currently, can use only personal data as no camera trap data-sharing happens

Capacity building for Intergovernmental Platform for Biodiversity and Ecosystem Services (IPBES)

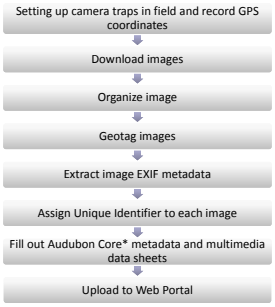
The project aims to

1. Capacity Building for data digitalization and publishing of multimedia biodiversity data
2. Enhancing the Audubon core with help of GBIF, NINA
3. Development of Web Portal for Camera trap data for evidence based decision making
4. Best practices guide with suitable case studies that has operationalized the mobilized biodiversity data for use in environmental conservation and management policy.
5. Data repatriation from Natural History Museum

WII Database

- Tiger images & Leopard images with associated Metadata have been compiled so far in WII database.

The process of Camera trap data standardisation and uploading to website.



Standardisation of camera trap data and Unique identification code

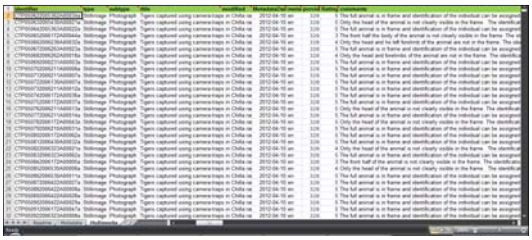
- The data is organised in Modified Audubon core template where a unique identifier number is assigned to the images. A 22-letter alphanumeric string proposed as unique identifiers for camera trap images.
- The unique identifier of an image was assigned as: CTP05061**2012**001A00049a

CTP05061**2012**001A00049a

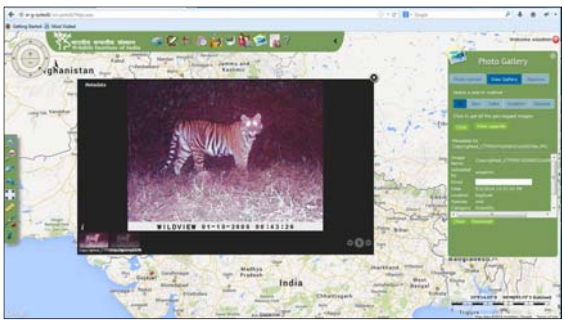
- CTP: camera-trap photograph
- 05: State code for Uttarakhand (Census of India)
- 061: District code for Pauri (Census of India)
- 2012: Year in which photograph was captured
- 001A: camera-trap ID with A/B denoting one of paired camera traps
- 00049: sequential photo-capture number
- a: a/b/c distinguishes between multiple objects in the same photograph

Audubon core

- Set of vocabularies designed to represent metadata for biodiversity multimedia resources and collections.
- Describes the media resources with consistent metadata.
  - ✓**Audubon core template**
    - **Data capture on Audubon Core template**
    - **MS Excel-based template**
    - **80 fields, six mandatory (Identifier, Type, Title, Metadata Language, Copyright Owner, Copyright Statement)**



Development of Web Portal for Camera trap data



Best Practices Guide

- Will try to release it in GBIF GB 21

Case study & Use and reuse of data

- Camera trap image helps identify poached tiger skin.
- Seized tiger skin from the town of Najibabad (Northern India) and accompanying camera trap images from the south eastern boundary of the Rajaji National park.

Data repatriation from Natural History Museums in Norway

- **Repatriation of data** of Indian origin from the Museums in Norway has been initiated.
- Collections of birds, mammals, bryophytes, lichens, molluscs and angiosperms have been identified.
- Most of the legacy data has not been digitised.
- They can be repatriated once they have been digitised
- The process of digitization of data is currently ongoing.

Biodiversity Grid

- A pilot project has been initiated
- Few institutions to come forward for data sharing using high end infrastructure.
- One strategic application to be developed using the available data
- Curriculum on Biodiversity Informatics to be developed

Mr. Vijay Barve has received the GBIF - young researchers award

Welcome to GBIF-GB-21 in New Delhi, India 16th to 18th September 2014

?

Biodiversity databases and *INDONESIAN BIODIVERSITY INFORMATION FACILITY (InaBIF)*

Ahmad Jauhar Arief & Pesi Grihastamadya
Research Center for Biology,
Indonesian Institute of Sciences

RC For Biology and Its Position

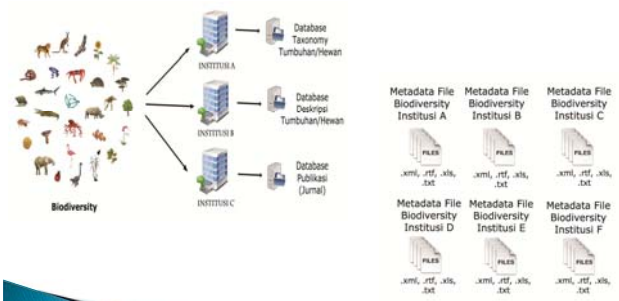
Ministry of Forestry and
Ministry of Marine & Fisheries : Management Authority
State ministry of Environment : CBD Focal Point
Coordinate some national & International issue of Biodiversity

Indonsian Institute of Sciences (LIPI) : Scientific Authority

RC for Biology – LIPI → Biodiversity Data

MZB
Herbarium Bogoriense
Microbiology Div (InaCC)

Background



Collection and Utilization of National Biodiversity Data

- The data are still scattered in each agency and sectoral
- Status of Indonesian biodiversity collected data is still unknown (how big?, where are deposited)
- Benefits are not optimal from the data that has been collected

Identification Results of biodiversity data

No	Name	Administrators
1	Database Plant Resources of South East Asia (Prosea)	Research Center for Biology – Indonesian Institute of Sciences
2	Database specimen Collection and Zoologi Museum	
3	STORMA (stability of rainforest Margins in Indonesia).	
4	Database Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)	
5	Database of National Biodiversity Information Network (NBIN)	
6	Database of Microbial Culture	Research Center for Biotechnology - Indonesian Institute of Sciences
7	Database of Invitro Tissue Culture	
8	Database of Germplasm Garden	
9	Database of genes and gene mutations for food	
10	Information Database of Infectious Deseases in Indonesia	
11	Database Collection of Plant Breeding	Botanical Garden – Indonesian Institute of Sciences
12	Rare Plant Collections Database	
13	Herbarium Collection Database	
14	Orchid Collection Database	
15	Grains Collection Database	
16	Database of Medicinal Plants	
17	Database of Germplasm	Agricultural R&D Agency
18	Database of Coral	Research Center for Oceanography – Indonesian Institute of Sciences

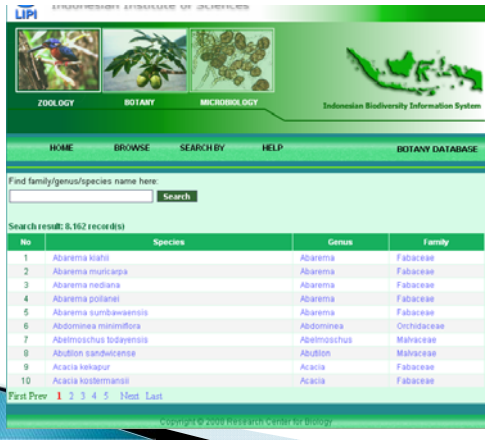
20	Database Plasma Nuftah	Badan Litbang Pertanian	B
21	Basisdata Organisme Pengganggu Tanaman Karantina (OPTK)	Badan Karantina Pertanian	A
22	Sistem Informasi Database Varietas	Pusat Perlindungan Varietas Tanaman	B
23	Sistem Informasi Kalender Tanam Terpadu	Badan Litbang Pertanian	A
24	E-produk (Etalase produk-produk badan litbang pertanian yang bisa dipesan dan dibeli)\	Badan Litbang Pertanian	A
25	Jejaring Pengelolaan Plasma Nuftah Pertanian Lingkup Litbang Pertanian	Komisi Nasional Sumber Daya Genetik Pertanian (KNSDG)	A
26	Perbenihan Tanaman Pangan	Puslitbang Tanaman Pangan	A
27	Sistem Informasi Plasma Nuftah Padi	Balai Besar Padi	A
28	Sistem Informasi Plasma Nuftah Tanaman Hias	Balai Penelitian Tanaman Hias	B
29	Sistem Informasi Plasma Nuftah Jeruk dan Buah Subtropis	Balai Penelitian Tanaman Jeruk dan Buah Sub Tropis	B
30	*National Information Sharing Mechanism on the Implementation of Global Plan of Action (NISM-GPA*)	NISM Globall; FAO, NISM Indonesia: Balai Besar Biogen	A
31	Sistem Informasi Plasma Nuftah Pertanian 1.5	Balai Besar Biogen	B
32	BioLink	Balai Besar Biogen	B
33	Sistem Informasi Plasma Nuftah Padi	Balai Besar Padi	B
34	Sistem Informasi Plasma Nuftah Tanaman Kacang-kacangan dan Umbi-umbian	Balai Penelitian Tanaman Kacang-kacangan dan Umbi-umbian	B
35	Sistem Informasi Plasma Nuftah Tanaman Kacang dan Serelia	Balai Besar Tanaman Serelia	B
36	Sistem Informasi Plasma Nuftah Tanaman Hias	Balai Besar Tanaman Hias	B

37	Sistem Informasi Plasma Nuftah Tanaman Sayuran	Balai Penelitian Tanaman Sayuran	B
38	Sistem Informasi Plasma Nuftah Tanaman Jeruk dan Buah Subtropis	Balai Penelitian Tanaman Jeruk dan Buah Subtropis	B
39	Sistem Informasi Plasma Nuftah Tanaman Buah Tropis	Balai Penelitian Tanaman Buah Tropis	B
40	Sistem Informasi Plasma Nuftah Tanaman Obat dan Aromatik	Balai Penelitian Tanaman Obat dan Aromatik	B
41	Sistem Informasi Plasma Nuftah Tanaman Rempah dan Aneka Industri	Balai Penelitian Tanaman Rempah dan Aneka Industri	B
42	Sistem Informasi Plasma Nuftah Tanaman Serat	Balai Penelitian Tanaman Serat	B
43	Sistem Informasi Plasma Nuftah Tanaman Kelapa dan Palma Lain	Balai Penelitian Tanaman Kelapa dan Palma Lain	B
44	Sistem Informasi Plasma Nuftah Ternak	Balai Penelitian Ternak	B
45	Sistem Informasi Plasma Nuftah Veteriner	Balai Besar Penelitian Veteriner	B
46	Sistem Informasi Plasma Nuftah Karet	Pusat Penelitian Karet	B
47	Sistem Informasi Plasma Nuftah Teh dan Kina	Pusat Penelitian Teh dan Kina	B
48	Sistem Informasi Plasma Nuftah Kopi dan Kakao	Pusat Penelitian Kopi dan Kakao	B

No	Name	Administrators
49	Database of Indonesian Natural Medicines	The National Agency of Drug and Food Control
50	Database of Protection of Medicinal Plants and Traditional Medicine	Centre for Scientific Documentation and Information – Indonesian Intitute of Sciences (PDII-LIPI)
51	Protection of Traditional Knowledge of Ingredients Natural Dyes	

Indonesian Biodiversity Information Sistem
(IBIS)
RC for Biology

Specimen Database (IBIS)



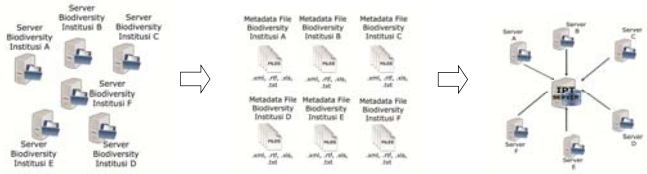
RCB Specimen Data 2013

Bidang	Data		
	Specimen Collection	Offline	Online (Type)
Botany	892.962	399.641	12,530
Zoology	3.007.247	272.291	4000
Microbiology	3000	1100	300

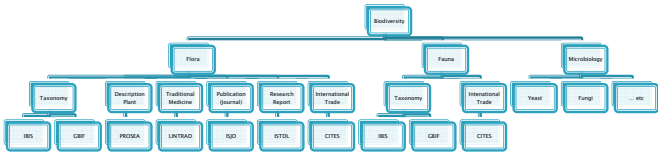
InaBIF

Indonesian Biodiversity Information Facility
http://inabif.lipi.go.id

Goal

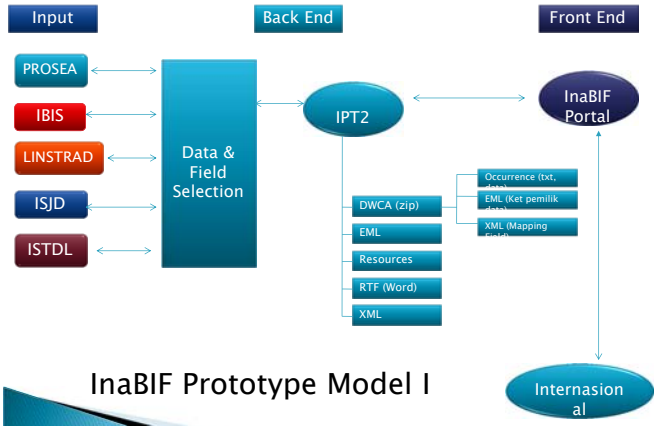


Biodiversity Data Architecture (Ina BIF)

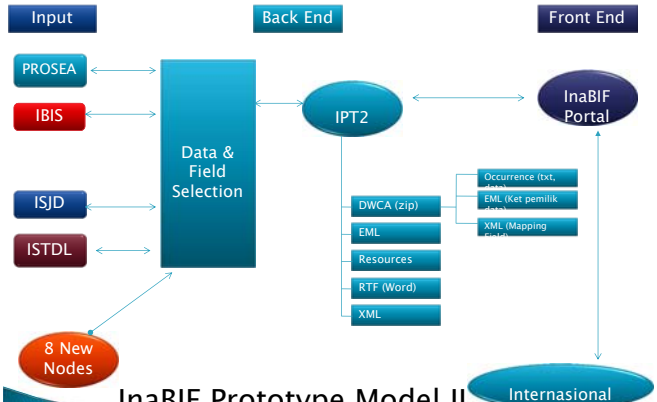


InaBIF Node Prototype I

1. Indonesian Biodiversity Information System/ IBIS (Research Center of Biology/ RCB, LIPI)
2. Traditional Knowledge For Medicine/ LINSTRAD (Ministry of Science and Technology)
3. Plant Resources of South East Asia/ PROSEA (RCB, LIPI)
4. Indonesian Scientific Journal Database/ ISJD (Center for Scientific, Documentation and Information/ PDII, LIPI)
5. Indonesian Science and Technology Digital Library (PDII, LIPI)



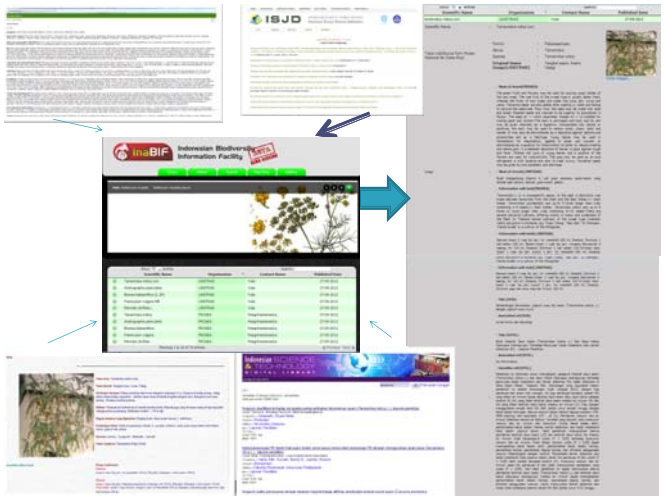
InaBIF Prototype Model I



InaBIF Prototype Model II

New InaBIF Nodes

1. Research Center for oceanography http://www.oceanografi.lipi.go.id
2. Research Center for Biotechnology – http://biotek.lipi.go.id/
3. Bogor Botanical Garden Concervation Center for Plant – http://www.krbogor.lipi.go.id/
4. Research Center for Biomaterials – http://biomaterial.lipi.go.id/
5. Cibodas Botanical Garden Technical Management Unit for Plant Conservation http://krcibodas.lipi.go.id/
6. Research Center for Limnology – http://limnologi.lipi.go.id
7. Center for Scientific Documentation and Information – http://www.pdii.lipi.go.id/
8. PROSEA (Plant Resources of South East Asia) – http://proseanet.org/



Activities

1. Mentoring Programme From GBIF (august 2012 – may 2013).
   The mentoring project are to support Indonesia to establish a starting-up phase of BIF, to establish a network for the management of biodiversity information in Indonesia and to obtain a clear vision on how to collaborate in the GBIF Asian and global network.
The objectives are:
   a. Learning from the Japan's experience in GBIF implementation (led by Japan by arranging a visit of Indonesian representatives to Japan).
   b. Establishing a national consortium of biodiversity organizations/institutions.
   c. Organizing and conducting a workshop in Indonesia towards establishing and building the national infrastructure for biodiversity data management and publishing.

Activities …

2) Establishment of InaBIF
   a. Biodiversity Data Management Workshop on the topic "Building the National Consortium for Indonesian Biodiversity Data Interoperability", on February 5, 2013,
   b. Workshop on Integrated Publishing Toolkit 2 For Biodiversity Data with the topic "Introduction to Integrated Publishing Toolkit Version 2 For Biodiversity Data", on 28-29 May 2013,
   c. InaBIF prototype with a data sample of 5 types of plants and scientific name as an identifier taken from the Research Center for Biology-LIPI, ISJD and ISTDL (PDII-LIPI), PROSEA, GBIF, and LINSTRAD.
   d. Training IPT and NPT for InaBIF nodes
   e. Meeting of policy makers about the internal MOU for sharing data between 8 nodes, namely Biotechnology Research Center (LIPI), Technical Implementation Unit of Biomaterials (LIPI), Research Center for Oceanography (LIPI), Research Center for Limnology – (LIPI), Chemical Research Center (LIPI), Scientific Information and Documentation Centre (LIPI), the Center for Plant Conservation Bogor Botanical Gardens and Cibodas (LIPI), and the Center for Biological Research (LIPI).
   f. IPT for RCB- LIPI has been registered and activated (http://ipt.biologi.lipi.go.id)

Collaboration

RC for Biology has initialized some colaborative work with other institution at national and global level.
1. Started last year there is collaboation with Museum fur Naturkunde(MfN-Germany) to work with biological inventory and development of INDOBIOSYS (Indonesian Biodiversity system).
2. The other was done through collaborative work with NBRC & JCM Japan to develop Culture Collection Database.
3. In 2014, we are starting collaboration with IRD (French) to work on inventory and database of Papua Region (Indonesia)

Thank you

Node status report

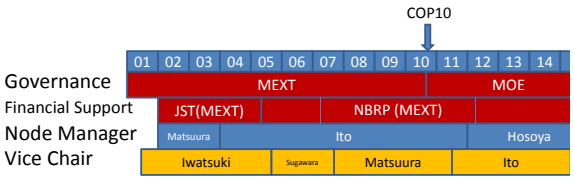
- Each Node to report the status in 10 minutes.
- Skip contents about strategy.

Japan Node

GBIF JAPAN

History

Japan: Voting Participants since 2001-



Consolidation of activity of JBIF

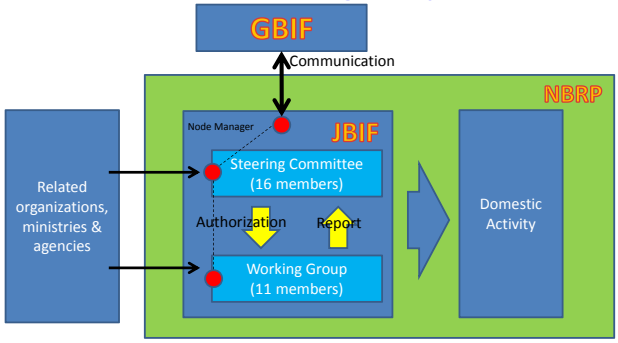
Change in governance

MEXT 文科省 → COP10 (2010) → **MOE** 環境省

Stabilized domestic activity was required

- Grasp the biodiversity information in Japan.
- More and stronger collaboration.
- Outreach for popularization.
- Promotion for data exploitation.

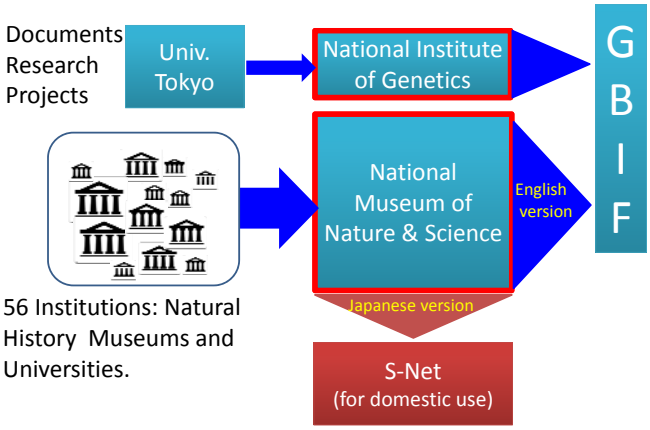
Governance and funding of Japan Node



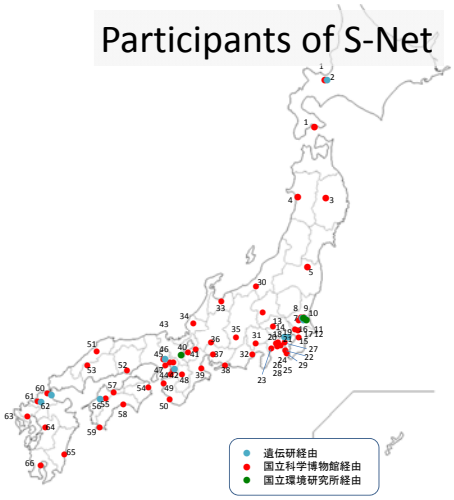
- Node Manager works as a point person between JBIF and GBIF.
- To enhance the communication, some members of Working Group are also assigned as Steering Committee members.
- Node Manager works as a manager of the working group.

1	Riken	**Steering Committee**
2	Tokyo University	
1	Hokkaido University	
1	Kyushu University	
1	Yokohama University	
1	National Museum of Nature and Science	
1	Biodiversity Center of Japan (MoE)	
1	Japan Science and Technology Agency	
1	Yamashina Institute for Ornithology	
2	National Institute of Genetics	
1	Japan Agency for Marine-Earth Science and Technology	
1	National Museum of Nature and Science	
1	Hyogo University / Prefectural Museum	
1	National Institute of Genetics	
3	National Museum of Nature and Science	
1	National Institute for Agro-Environmental Science (MAFF)	
1	National Inst. For Environmental Studies	**Working Group**

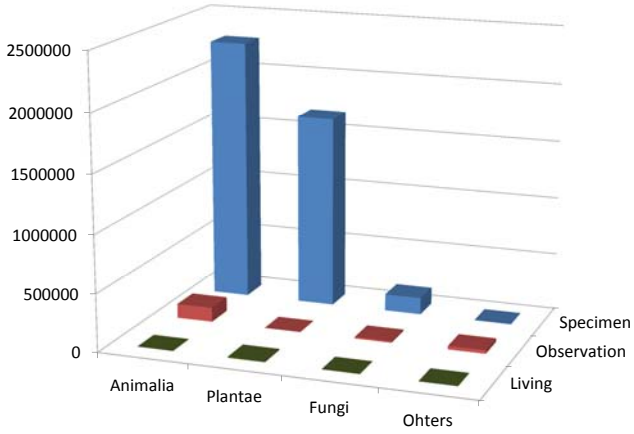
Data publication flow



Participants of S-Net



Data published from Japan 4.27 mil.



Activities

1. A new logo for JBIF.
2. Node strategy composed.
3. Publication of the brochure.
4. Renewal of the portal site: http://www.gbif.jp/v2/. ; Twitter on https://twitter.com/JapanBIF.
5. Installation of IPT2 in progress. Translation to Japanese done.
6. Advancing engagement: collaboration with ESABII in integrating Red list in Asia; communication with JBON.
7. Translation of other informative documents provided by GBIF (Textbooks, MoU, Strategic Plan, GBits, and GBIO).
8. Local meeting to promote data provision.
9. Promoting data papers / open data activity
10. Yearly research meetings, training courses, symposia for curators, professional researchers, and the public.
11. Mentoring program with Indonesia.

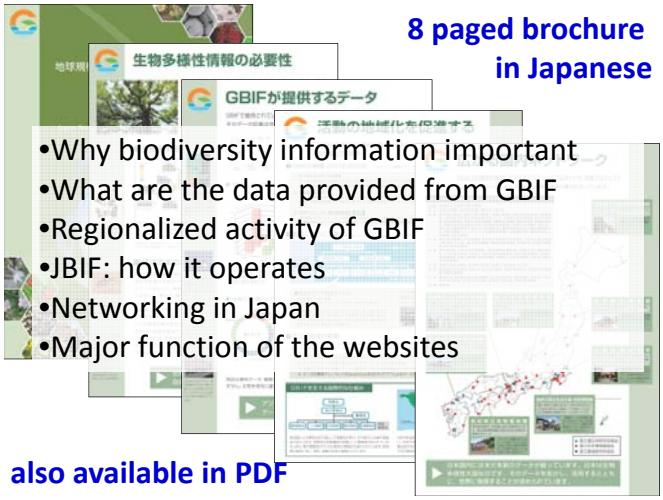
New Logo

GBIF JAPAN

National Strategy of Japan Node (major points)

Overall Goal: Promote the collection and application of biodiversity information in Japan and accelerate contribution to the international community.

1. Raise awareness about biodiversity information.
2. Improve museums' ability to function as repositories of biodiversity data.
3. Raise awareness within the general public and government agencies about the importance of biodiversity information.
4. Enhance the visibility of the Japan Node in the GBIF community.
5. Promote cooperation with related projects.
6. Assume cooperative leadership in Asian activities.



8 paged brochure in Japanese

- Why biodiversity information important
- What are the data provided from GBIF
- Regionalized activity of GBIF
- JBIF: how it operates
- Networking in Japan
- Major function of the websites

also available in PDF

New JBIF Node Portal Site

www.gbif.jp/v2/en/

Installation of IPT2

- In progress in National Inst. Genetics and National Museum of Nature and Science.
- Translation to Japanese.

Promoting cooperation with related projects

- With ESABII in integrating Red List/Inv. Alien. Species List.
- With AP-BON in providing integrated RL/IAS data.
- With JBON in sharing information.

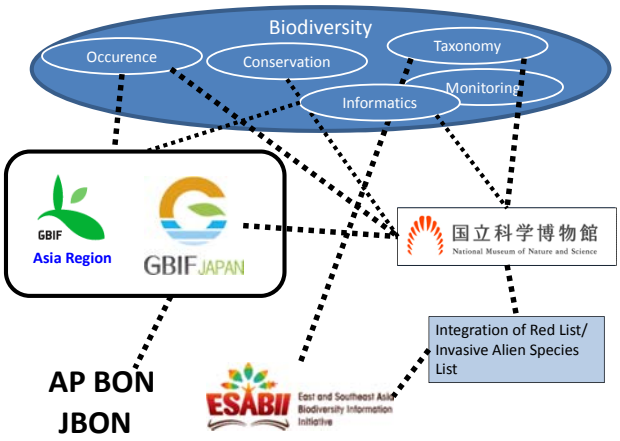
Scientific activities

1. Making species checklist at national level, including invasive, Red List, endemic species and migratory birds.

2. Updating fish databases to assess fish biodiversity loss and risk in Asia.

Key facts of ESABII

- East and Southeast Asia Biodiversity Information Initiative (ESABII).
- Secretariat: Biodiversity Center of JPN, MoE.
- Launched by 14 countries and relevant organizations to achieve goals of the Convention on Biological Diversity (CBD).
- 2 dimensions: Taxonomy capacity building & Development of Biodiversity Information.



Translation of important documents provided by GBIF

MOU **Strategic Plan** **Newsletter**

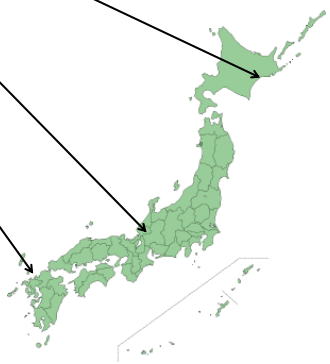
All available in Japanese as “starter kit “

Translating GBIO to Japanese in progress

- Glossary
- Columns
- Revised translation by members

Local Meeting with Local Museums

1. 2014/2 Kushiro, Hokkaido
2. 2014/3 Toyama
3. Kyushu area



Publishing Data Papers

Progress: Publication of a Data Paper using GBIF protocols (IPT2, DwC-A)

【Monitoring records of plant species in the Hakone region of Fuji-Hakone-Izu National Park, Japan, 2001-2010】
Ecological Research 28(4) 541

Published 1 paper in 2013 (plant observation),
Submitting 1 paper (insect observation),
Preparing 2 papers (plants and insect specimen)

23

Promoting Biodiversity Informatics

Progress: Review article on Open Data (in Japanese) in press.

【Current status and future perspective on “Open Data” in biodiversity science, Japan.】
Japanese Journal of Ecology 64: (in press)

Planned review articles on topics of biodiversity informatics
- 1 paper in 2014 (about Open Data)
- 2 papers in 2013 (about Data Base and LTER)

24

Meetings, training courses, symposia

(Yearly events)

Symposia themes

2012 Endangered species
2013 Invasive species
2014 About GBIO

Activities

1. A new logo for JBIF.
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11. Mentoring program with Indonesia.

Korean Biodiversity Information Facility ; Current Activity, Outputs and Future Plan

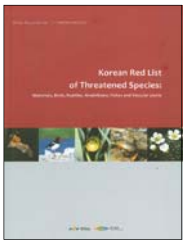
Jeongheui Lim & Hyung-Seon(Howard) Park
National Science Museum(KBIF Secretariat) / KBIF Node Manager

GBIF Node Asian Regional Meeting & Workshop
National Museum of Nature and Science, Tsukuba, 17-18 July 2014

In Overview:

Species Checklist of Korea;
The sources are from National Institute of Biological Resources(NIBR) under Ministry of Environment(MoE). At present, by the "National Species Inventory Project", 7,125 species are available including vascular plant 4,338, bryophyte 903, vertebrate 1,884 etc. (but, not data in Excel file)

Red List:
At present, excluding large parts in Taxa, such as insect and shellfish etc. Only in 798 species, the number shown at Red List is very roughly about to cover 20% out of 100, expecting completion of the list can be made in all Taxa, possibly by end of 2015.



Plans for coming years;
2014: Vascular plant II and Invertebrate Animal
2015: Fungi and Completion of the List
Therefore, the list may released for rest of the data at yearly basis.

http://www.kbif.re.kr

In Summary(Red List): data sheet submitted

RedList_Korea	mammal		vascular plant		amphibia		reptile		bird		fish	
Clasification/category	Number of Species	percentage(%)	Number of Species	percentage(%)	Number of Species	percentage(%)	Number of Species	percentage(%)	Number of Species	percentage(%)	Number of Species	percentage(%)
Extinct(EX)	1	2.4	0	0	0	0	0	0	0	0	0	0
Extinct in the Wild(EW)	0	0	0	0	0	0	0	0	0	0	0	0
Regionally Extinct(RE)	5	12.2	0	0	0	0	0	0	3	3.2	1	1.3
Critically Endangered(CR)	1	2.4	28	5.2	0	0	0	0	2	2.1	4	5.3
Endangered(EN)	4	9.8	86	15.8	2	11.7	3	11.5	18	18.9	13	17.1
Vulnerable(VU)	9	22	110	20.3	3	17.7	2	7.7	36	37.9	9	11.8
Near Threatened(NT)	1	2.4	56	10.3	2	11.7	0	0	8	8.4	14	18.4
Least Concern(LC)	11	26.8	97	17.8	10	58.8	13	50	28	29.5	20	26.3
Data deficient(DD)	4	9.8	40	7.4	0	0	4	15.4	0	0	5	6.6
Not evaluated(NE)	4	9.8	126	23.2	0	0	3	11.5	0	0	10	13.2
Not Applicable(NA)	1	2.4	0	0	0	0	1	3.8	0	0	0	0
In total: 798	41	100	543	100	17	100	26	100	95	100	76	100

MoE/NIER Korea, Feb. 2013

http://www.kbif.re.kr

Invasive Species:

Invasive Species list of 16 species are released by NIBR/MoE.
It is amongst thousands of naturalized organism, only list limited to severely disturbs in terms of ecological aspects.

	Clasified	Korean Name	Scientific Name
1	mammal	뉴트리아	*Myocastor coypus*
2	amphibia	황소개구리	*Rana catesbeiana*
3	reptile	붉은귀거북속(전종)	*Trachemys spp.*
4	fish	파랑볼우럭(블루길)	*Lepomis macrochirus*
5		큰입배스	*Micropterus salmoides*
6	plant	돼지풀	*Ambrosia artemisiaefolia var. elatior*
7		단풍잎돼지풀	*Ambrosia trifida*
8		서양등골나물	*Eupatorium rugosum*
9		털물참새피	*Paspalum distichum var. indutum*
10		물참새피	*Paspalum distichum var. distichum*
11		도깨비가지	*Solanum carolinense*
12		애기수영	*Rumex acetosella*
13		가시박	*Sicyos angulatus*
14		서양금혼조	*Hypochoeris radicata*
15		미국쑥부쟁이	*Aster pilosus*
16		양미역취	*Solidago altissima*

http://www.kbif.re.kr

Challenges and Prospects:

Different and limited authority applied depend on the Ministries regarding the biodiversity issues, for example;

- M. of Environment has boundary to the inland only,
- M. of Maritime Affairs deals with marine and fishery product,
- M. of Science, ICT and Future Planning responsible for general biology, and science and natural history museums in University,
- National Forest Service covers in insect, vascular plant and mushroom,
- M. of Agriculture covers agricultural and horticultural products,
- Cultural Heritage Administration serves biological specimens in natural monument, and more..

http://www.kbif.re.kr

Challenges and Prospects:

Inter-governmental organizations, such as ECOPLEX ecological park(33090.0 sqm) of National Ecological Institute has established recently in Seocheon County, to preserve the natural environment of the region and to create a national hub to gather various ecological valuables for advanced research and exhibition in Korea. More activities are on going including academic associations related to biodiversity and taxonomy.

http://www.kbif.re.kr

2014 updated

http://www.kbif.re.kr

In Overview

"Korea Biodiversity Information Facility"(KBIF)

KBIF has been established in early 2002, however, functionally the KBIF secretariat has launched in 2006 at **National Science Museum**/Ministry of Science, ICT and Future Planning(MSIP).

The Korean national node, KBIF, does actively participate and communicate through GBIF global network, and **as of 2014** contributing the data case of nearly **1.77 million records** which devoted by **28 data providers**(institutions), from National Biodiversity Institution Consortium(NBIC) that **comprises 45 biodiversity research organizations** at present.

The membership(by MOU) in NBIC ; 6('06)→ 13('08) →45('14) institutional members are continuously increasing for Biodiversity Research and Data Sharing in KBIF.

http://www.kbif.re.kr

Data Providers in KBIF (28/45 NBIC)

KBIF Data Providers	Records
Korea National Arboretum(KNA)	1,326,769
National Science Museum of Korea(NSMK)	248,500
Folklore and Natural History Museum(JNHM)	60,855
Korea Institute of Environmental Ecology(KIEE)	52,077
Korea Institute of Science and Technology Information	40,425
Mokpo Museum of Natural History(MNHM)	24,770
Ewha Womans University Natural History Museum(ENHM)	10,601
Kyung Hee University Natural History Museum(NHMK)	10,234
Korea Institutie of Water and Enviroment(KIWE)	9716
Hannam University Natural History Museum(HUNM)	5995
Halla Arboretum(JJHA)	4069
Jeollanamdo Maritime & Fisheries Science Museum(ASJK)	3642
Kunsan Passage Bird Research Institute(GMBO)	3518
Seodaemun Museum of Natural History(SMNH)	3272
Chungnam University Natural History Museum(NHMC)	3021
Gyeryonsan Natural History Museum(GNHM)	3000
Wooseokheon Natural History Museum(WSHN)	2864
Korean Aquatic Plant Resources and Information Bank	2255
Gyeongsangnam-do forest environment Research Institute(GFEI)	1992
Yeongwol Cave Ecological Museum(YCEM)	1508
Upo Wetland Ecological Park(UWEP)	1498
Korean Wild Bird Society	1395
Nomok Nature Observatory(NMNO)	1000
Korean Bioinformation Center	712
Korean Biological Resource Center	662
HanBat Botanical Garden(HBBG)	500
Korea Botanic Garden(KOBG)	500
KBIF Data Repository(KBIF Data Repository)	
28 DataProviders (89 Datasets) /45 NBIC	1,777,605

http://www.kbif.re.kr

KBIF NODE does is in close partnership with others…

Data Providers/organizations (45+ NBIC)

Capacity Building and Outreach Activities/ by Coordinating Data Providers within NBIC

1. Extended data providers(data nodes) from 15 to 28(out of 45 NBIC institutions)

National Biodiversity Institutional Consortium(NBIC) for Biodiversity Research & Data Sharing

http://www.kbif.re.kr

KBIF

Capacity Building and Outreach Activities/ by Coordinating Data Providers within NBIC

2. National Biodiversity Institutions Consortium(NBIC) General assembly meeting, field research and survey, KBIF symposium and expert workshop for capacity building

http://www.kbif.re.kr

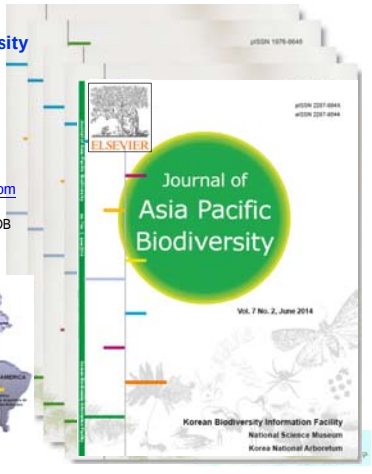
KBIF

Publishing KBIF Newsletter 5th, August 2013

Publishing
Journal of Asia-Pacific Biodiversity

Vol.7 No.2 June **2014**,
so far 26 Journals 190 papers published and shared worldwide to 22 institutions within 10 countries.

From Vol.7 No.1 March **2014**,
available online at www.sciencedirect.com
hosted by *Elsevier* academic publishing company(expect to register on SCOPUS DB within next year)



http://www.kbif.re.kr

http://www.kbif.re.kr

KBIF

Publication (International Research Cooperation)

Mongolian Atlas of Plants

: 몽골의 산림, 초원, 사막 지역에 서식하는 초본 및 수목 49과 148속 200종

Current Status

- Running Korean NODE(KBIF) by limited fund yearly-based government project
- KBIF Secretariat established, not fully fund available for the actual work program implementation for data increase, but to voluntarily by the joined NBIC institutions
- Lack of IT Technical Staff (not able implementing HIT, NPT..)
- Lack of constant data maintenance in data providers (in each individual institutions)
- Running GBIF Data Portal Asian Mirror site(kr.mirror.gbif.org) by KISTI's own budget, and we have performed grade up to version 1.3.1 yet to be 1.3.2 service.

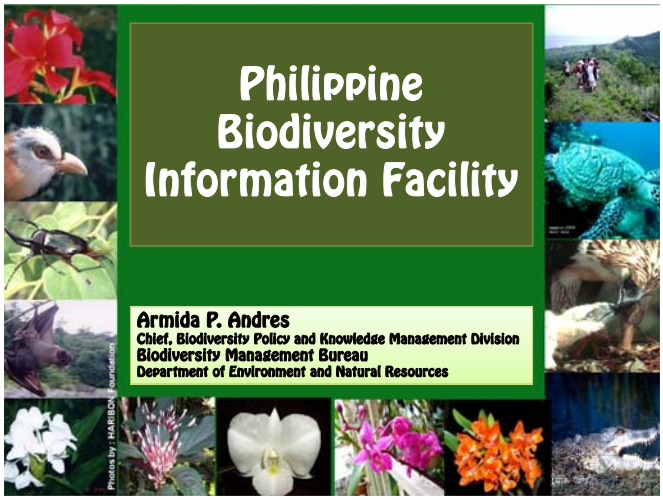
Plans

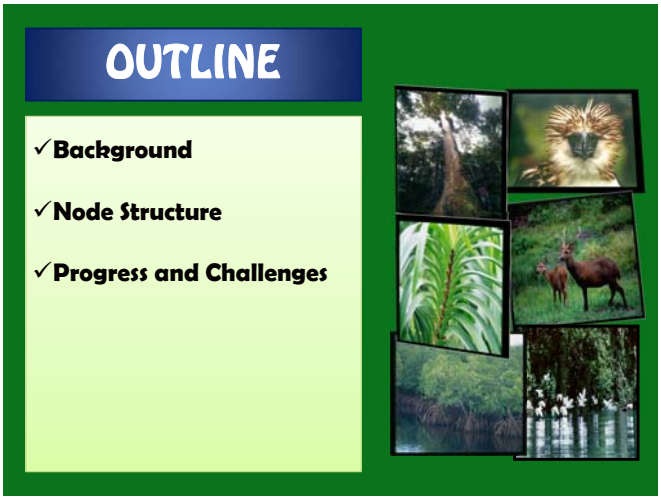
- Keep up recruiting data providers and extending national biodiversity network (it extended to 45 institutions at present)
- Keep increasing NBIC activities and field surveys (so far 15th activities)
- Keep publishing Journal of Asia-Pacific Biodiversity(JAPB) and dissemination (expect to register on SCOPUS journal within next year)

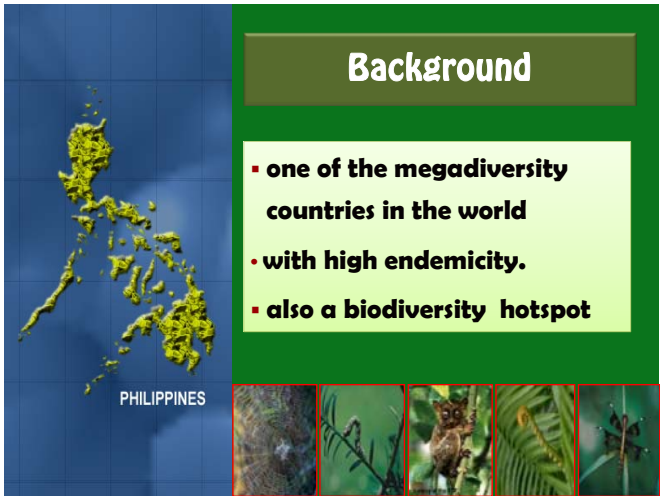
With thanks to all those who have contributed data, time and endeavor for developing the KBIF network

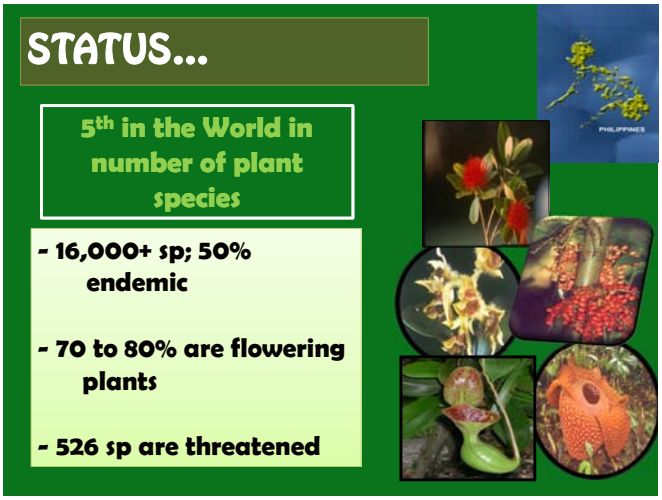
KBIF
한국생물다양성정보기구
Korean Biodiversity Information Facility

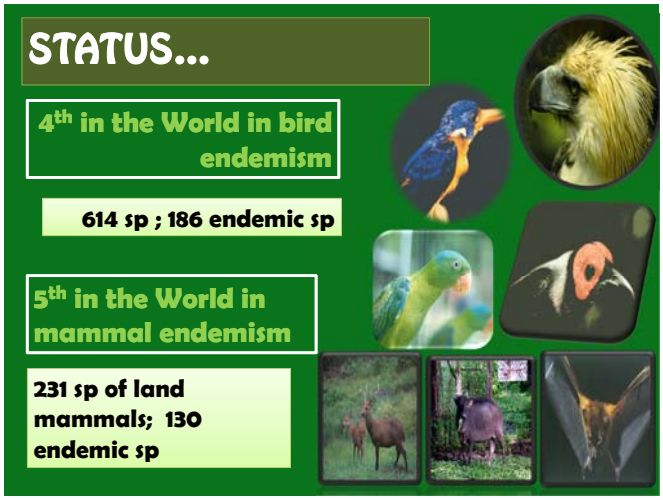
http:// www.kbif.re.kr


Philippine
Biodiversity
Information Facility
Armida P. Andres
Chief, Biodiversity Policy and Knowledge Management Division
Biodiversity Management Bureau
Department of Environment and Natural Resources


OUTLINE
✓Background
✓Node Structure
✓Progress and Challenges


Background
PHILIPPINES
▪ one of the megadiversity countries in the world
▪ with high endemicity.
▪ also a biodiversity hotspot


STATUS...
5th in the World in number of plant species
- 16,000+ sp; 50% endemic
- 70 to 80% are flowering plants
- 526 sp are threatened


STATUS...
4th in the World in bird endemism
614 sp ; 186 endemic sp
5th in the World in mammal endemism
231 sp of land mammals; 130 endemic sp


STATUS...
8th in the World in reptile endemism
301 sp ; 196 endemic sp

Summary of endemic terrestrial vertebrate Animal of the Philippines

Taxonomic Group	Total species	Endemic species	# of threatened species	# of threatened endemic species
Amphibians	116	95 (82%)	14	14
Reptiles	301	196 (65%)	24	24
Birds	614	186 (31%)	127	127
Land Mammals	231	130 (56%)	42	42
TOTAL	1,262	607	207	207

STATUS...

COASTAL & MARINE DIVERSITY

- 42 mangrove sp
- 2,500 sp of reef fishes
- 500 sp of corals
- 16 sp. of seagrass
- 5 sp. of marine turtles
- 25 sp. of marine mammals

Node Structure

- ✓ BMB as the National Focal Point for the Philippine Clearing House Mechanism (PCHM) serves as the Central Coordinating Agency of the BIOWEB. PH
- ✓ PCHM operates thru a network of stakeholders called BIOWEB. PH established thru a Memorandum of Agreement signed by 30 partners from government agencies, Non-Government organizations and academe

Node Structure

- ✓ BIOWEB.PH has a Governing Committee composed of seven (7) members with BMB as ex-officio member
- ✓ Exchange of information is done thru a web-based information system using the URL http:///www.chm.ph

Node Structure

- ✓ BMB Director as the country Head of Delegation to GBIF
- ✓ BMB Assistant Director as the alternate representative
- ✓ Chief, Planning Staff serve as the BMB Node Manager

Progress

- ✓ GIS mapping of Philippine Bird distribution
- ✓ Continuous updating of Species database
- ✓ Trained partners on how to use the online and offline version of species database following the DwC standards
- ✓ Framework Agreement among key institutions on information sharing

Progress

- ✓ Philippine Red List Committee currently being formed to review/update the National List of Threatened Philippine Fauna
- ✓ Drafted the revised National List of Threatened Philippine Flora thru the National Plants Conservation Committee

Progress

- ✓ Preparation of action plan for the prevention of species extinction as well as the Programme of Work on Protected Areas
- ✓ Formulated and adopted the National Invasive Species Strategy and Action Plan

Progress

- ✓ Most of the data on fish at the PCHM are from Fishbase
- ✓ Fishbase, a global species database that records a wide range of information on all fish species currently known in the world about their biology, ecology, taxonomy, life history, trophic features, population dynamics and uses.

Needs/Challenges

- Need to increase capacity on Darwin Core and IPT2 for data / data paper publishing with the assistance of ACB
- Need to develop network of museums through distribution of IPT2
- Apply for a mentoring program of GBIF

- ACB installed and configured GBIF IPT software under BISS website that will serve as a data publishing tool to be used by 10 AMS data providers, Philippines included.
- There is a plan to conduct training of technical person on the use of the IPT software
- Species database developed by ACB follows the DwC standard.

MARAMING SALAMAT PO....

Progress review on strategic plan

Scientific theme 1: Integration of the checklists.
Scientific theme 2: Fish database for biodiversity loss assessment.

Strategy 1: Build network.
Strategy 2: Popularize the data paper.
Strategy 3: Explore (funding) options for mobilising legacy data.
Strategy 4: Strengthen help desk facility at regional nodes to ensure the use of DwC-A standard.

Workshop on integrated Red List/Invasive Species List / Check List in East Asia

2013.3.12-13. in Tsukuba, Japan

国立科学博物館 National Museum of Nature and Science

GBIF JAPAN

ESABII East and Southeast Asia Biodiversity Information Initiative

1. Promote understanding of the importance of the Red List (RL), Invasive Species List (IL) and Check List (CL)
2. Survey current status of RL/IL/CL in East Asia
3. Determine strategy for integration of RL/IL/CL in East Asia

Current status of Red List and Invasive Alien Species List in Asian Countries

County	Red List	Format	Inv. Aln. Sp.	Format
Indonesia	Not Available		Online	Excel
Japan	Online	Excel (ND)	Online	PDF
Korea	Online	PDF/Excel (ND)	Online	PDF
Malaysia	Online	Excel (DC)	Offline	PDF
Philipines	Online	PDF	Partially availabe	Excel
Taiwan	Online	Excel (DC)	Online	CSV (partially DC)
Thailand	Online	PDF	Online	various
VietNam	Offline	Printed	Offline	Printed

DC=Darwin Core
ND=Not in Darwin Core format

Data integration being carried out, funded by ESABII

Deciding the required elements and the format

Species	Local Names	Countries	Red List Status	Invasive?
A	XXXX	S	I	
B	YYYY	S	II	
C	ZZZZ	S	Ia	
D	WWW	R	I	
....				
X	QQQQ	R	A	
Y	RRRR	T	B	
Z	TTTTTT	U	C	

To ensure compatibility, minimum elements in the same format are required.

Deciding the required elements and the format

Taxonomy
- **scientificName**
- **scientificNameAuthorship**
- **kingdom**
- **family**
- **vernacularName**
- **vernacular:Language**

RL Status
- **Category in the Red List**
- **[Notes]**

IAS Status
- **[Harmful] Yes/Potentially**
- **[Notes]**

Additonal:
Literature
Page

[] :Optional

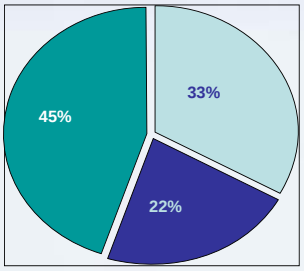
FishBase

Emily Capuli
FishBase Information and Research Group, Inc.
Khush Hall, IRRI College, Los Baños, Laguna 4031

GBIF Asia meeting
Tsukuba, National Museum of Nature and Science
17-18 July, 2014, JAPAN

FishBase Information and Research Group Inc.

FIN Projects, by type (2003-2013)



Legend:

- **Data Management** (encoding, organizing data, maintenance)
- **Database & Applications Development** (AquaMaps, tools, programming, CoL)
- **Products & Services** (portal/website development, fish rulers, data and report, generation of stock assessments, life history traits, AquaMaps)

FishBase Information and Research Group Inc.

Information Systems

FishBase

32,900 species, 303,200 common names, 56,900 pictures, 51,000 references, >2,100 collaborators (ver. 07/2014); Catalog of Fishses
www.fishbase.org

126,100 species (marine non-finfish), 27,500 common names, 12,100 pictures, 18,600 references, 260 collaborators (ver. 07/2014); WoRMS and CoL
www.sealifebase.org

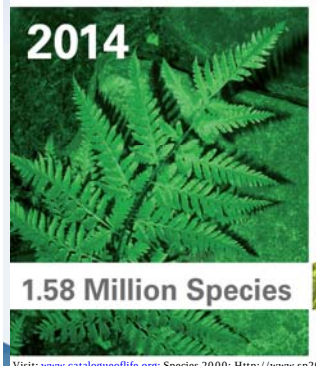
AquaMaps

At least 13,000 species mapped, 17,000 including restricted (one FAO, endemic) species (ver. 10/2013)
www.aquamaps.org

FishBase Information and Research Group Inc.

CATALOGUE OF LIFE

2014 Annual Checklist



It is the most comprehensive and authoritative available global index of species which holds information on the names, relationships, and distributions of species published monthly on the web, annually on DVD and as electronic web-services

143 databases
1,578,063 species
146,277 infraspecific taxa which belong to
139,352 genera,
8,074 families,
1,016 orders,
230 classes,
83 phyla and
7 kingdoms plus viruses;

Includes **1,277,567** species synonyms and **390,260** common names

Visit: www.catalogueoflife.org; Species 2000: Http://www.sp2000.org / ITIS: http://www.itis.gov

FishBase Information and Research Group Inc.

Information in FishBase

Morphology & Physiology
Metabolism • Gill area
Vision • Disease
Brain • Abnormalities
Ecotoxicology • Swim mode

Reproduction & Life History
Maturity • Spawning • Eggs
Larvae • Broodstock • Fry nursery
Larval dynamics • Larval speed

Distribution
Occurrence • FAO areas
Country • Ecosystem
Introductions

Genetics & Aquaculture
Electrophoresis
Heritability • Strains

Trophic Ecology
Ecology • Predators
Food items
Diet composition
Food consumption
Ration

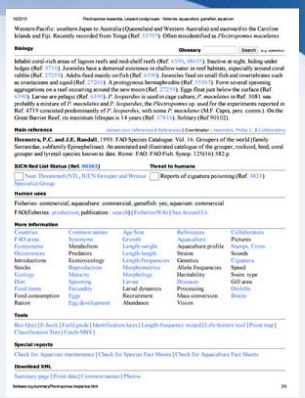
Fish as Food
Processing • Ciguatera
FAO catches
Aquaculture (production)

Population Dynamics
Growth/Mortality • L/W relations
Maximum sizes • Recruitment
L/L relations • Length frequency

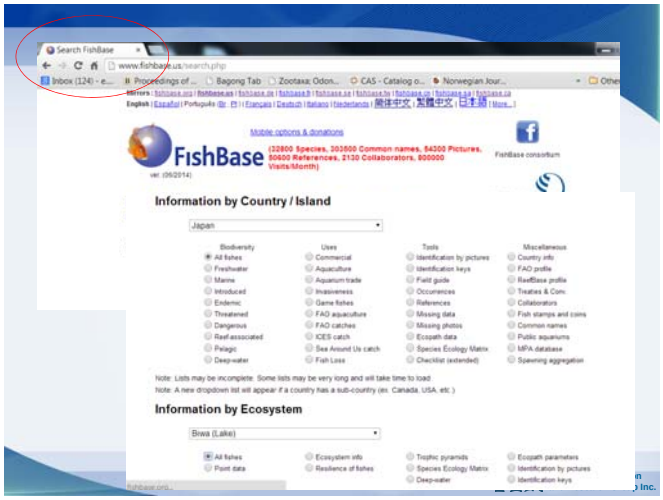
Other Tables
Pictures • References
Biblio • Keys • Sounds

FishBase Information and Research Group Inc.

Species summary page



FishBase Informaon and Research Group Inc.



Checklist by Country
Fields available for data entry

Abundance

Importance (e.g. highly commercial to of no interest)

Uses (e.g. game, bait, aquaculture, trade)

Conservation (e.g. protected, regulations)

Internet links to national checklists/databases

Occurrence (point data, ecosystems)

Photos

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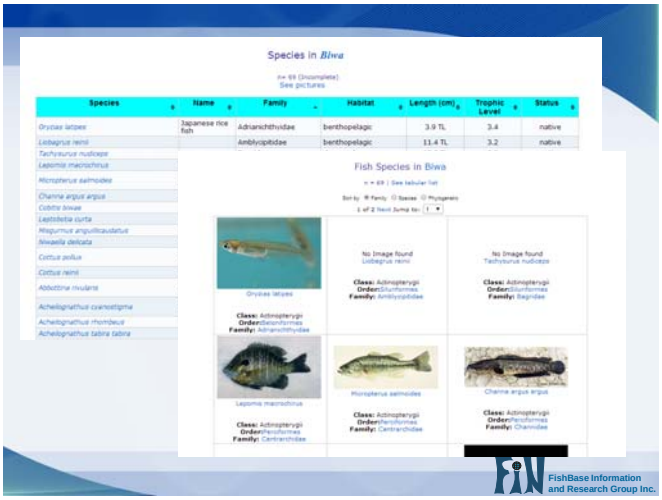
FishBase Information and Research Group Inc.



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Data gaps can be identified for species reported in a country

No.	Scientific Name	Common name	L-W	Growth	Diet
1.	Abalistes stellaris	Okihagi	Yes	No	Yes
2.	Ablennes hians	Hama-datsu	Yes	Yes	No
3.	Abudefduf bengalensis	Tenjiku-suzumedai	No	No	No
4.	Abudefduf septemfasciatus	Shichisen-suzumedai	No	No	No
5.	Abudefduf sexfasciatus	Rokusen-suzumedai	Yes	No	Yes
6.	Abudefduf sordidus	Shima-suzumedai	Yes	No	Yes
7.	Acanthocepola limbata	Itten-akatachi	No	No	No
8.	Acanthogobius flavimanus	Mahaze	Yes	No	Yes
9.	Acanthogobius lactipes	Ashishirohaze	No	No	No
10.	Acanthopagrus australis	Ōsutoraria-kichinu	No	Yes	No
11.	Acanthopagrus berda		Yes	Yes	No
12.	Acanthopagrus schlegelii schlegelii	Kurodai	Yes	No	Yes
13.	Acanthopagrus sivicolus	Minami-kurodai	Yes	No	No
14.	Acanthopsetta nadeshnyi	Urokomegarei	Yes	No	Yes
15.	Acanthurus achilles		Yes	No	No
16.	Acanthurus bariene	Kanranhagi	No	No	No
17.	Acanthurus blochii		Yes	Yes	No
18.	Acanthurus guttatus	Gomaniza	Yes	No	No
19.	Acanthurus leucopareius	Suji-kurohagi	Yes	No	No
20.	Acanthurus maculiceps	Irezuminiza	No	No	No
21.	Acanthurus mata	Hiraniza	Yes	Yes	No
22.	Acanthurus nigricans	Megane-kurohagi	Yes	Yes	No
23.	Acanthurus nigricauda		Yes	Yes	No
24.	Acanthurus olivaceus	Montsukihagi	Yes	No	Yes
25.	Acanthurus pyroferus	Kuroguchiniza	Yes	Yes	No

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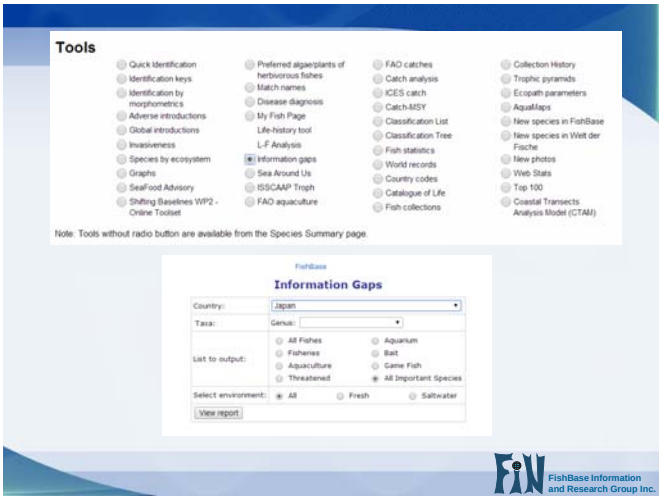
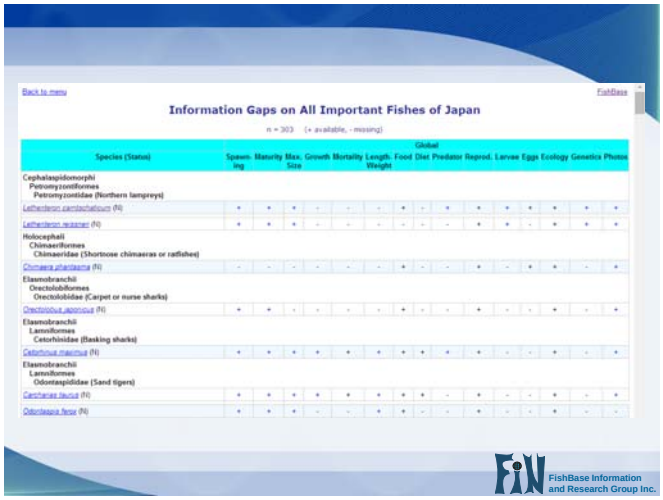


FishBase Information and Research Group Inc.



FishBase, Asia-Pacific region (ao July 2014)

Country	Spp. (ao July 2014)	Native	Endem	Intro	NotEst	Quest	Misid	Ext	Error	Stray
Brunei	491	486	0	3	0	2	0	0	0	0
Cambodia	956	919	1	13	0	19	4	0	0	0
China	3,557	3,143	124	27	6	245	10	0	2	0
Indonesia	4,736	4,497	125	20	8	68	17	0	1	0
Japan	4,242	4,029	44	43	8	92	17	1	6	2
Korea (North)	311	301	1	1	1	4	3	0	0	0
Korea (South)	1,169	1,058	23	15	3	61	8	0	1	0
Laos	586	547	2	12	4	18	3	0	0	0
Malaysia	1,999	1,852	50	20	7	61	8	0	0	1
Myanmar	1,046	947	56	14	3	20	6	0	0	0
Philippines	3,489	3,091	120	48	3	204	21	0	2	0
Taiwan	2,977	2,782	13	38	11	107	23	1	2	0
Thailand	2,281	2,071	20	22	8	149	10	1	0	0
Vietnam	2,543	2,378	0	19	0	134	12	0	0	0

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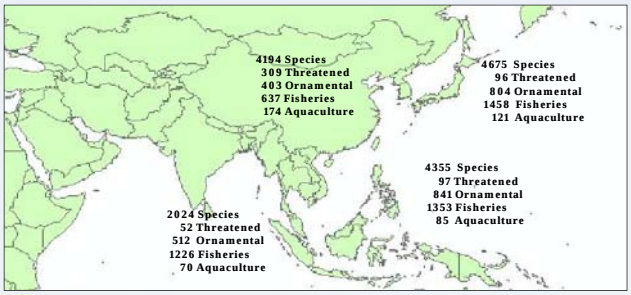
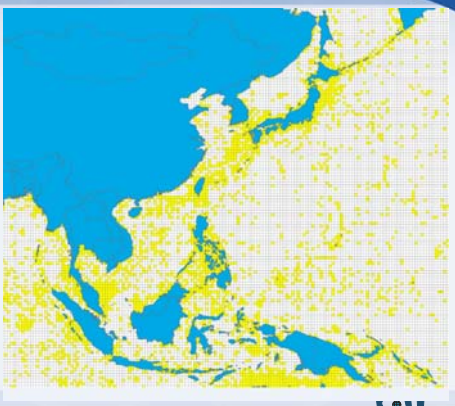
FishBase, Asia-Pacific region (ao July 2014)



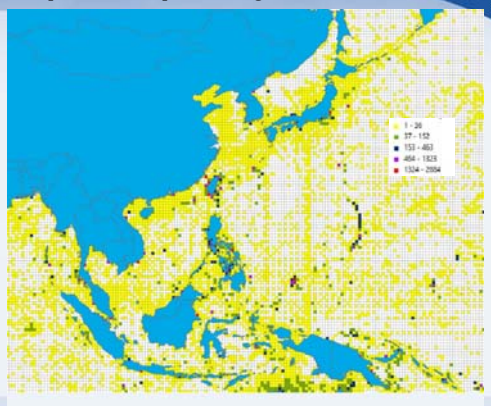
FishBase Information and Research Group Inc.

Point data for fishes



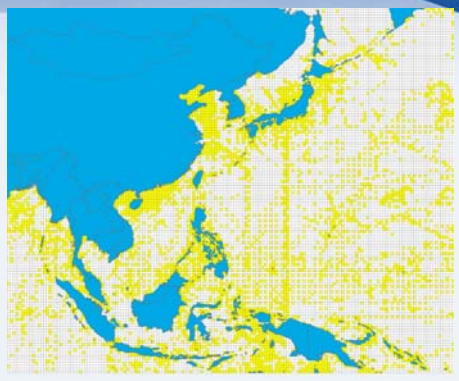
FishBase Information and Research Group Inc.

Number species of fish per half-degree cells

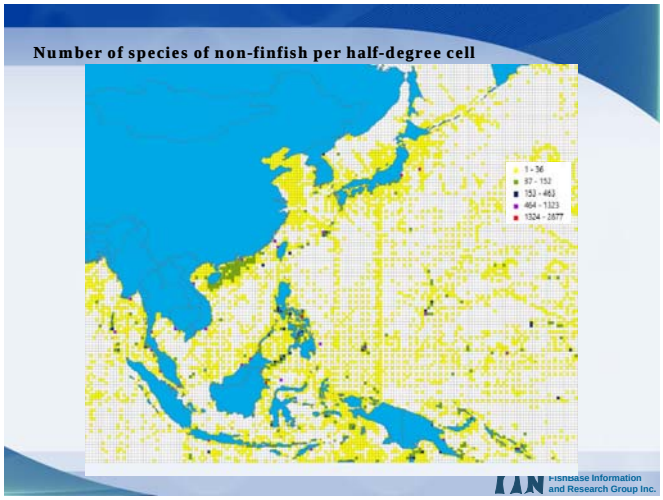


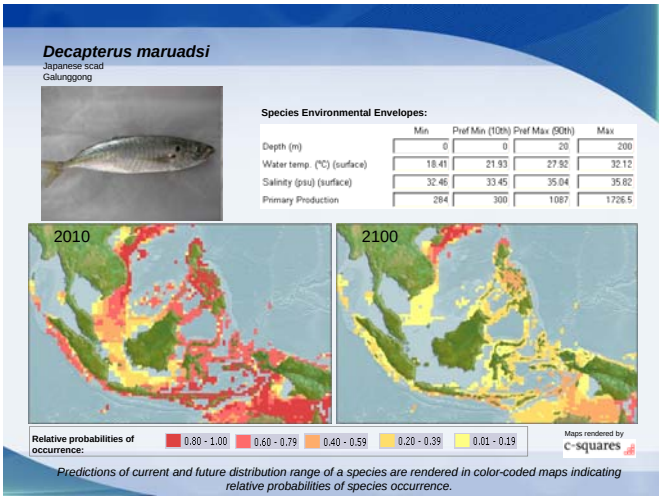
FishBase Information and Research Group Inc.

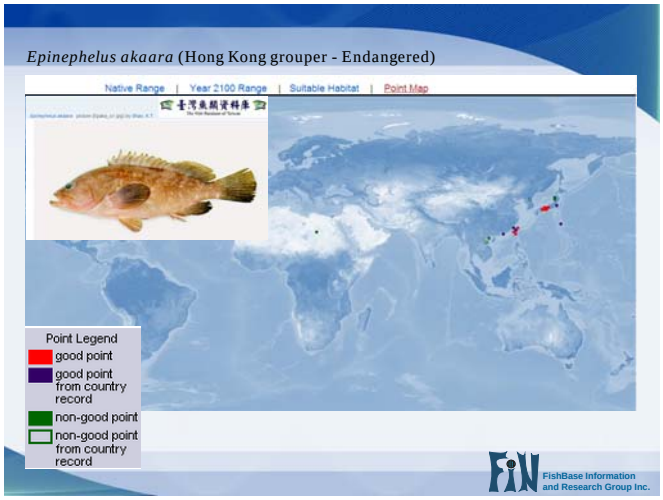
Point data for non-finfish

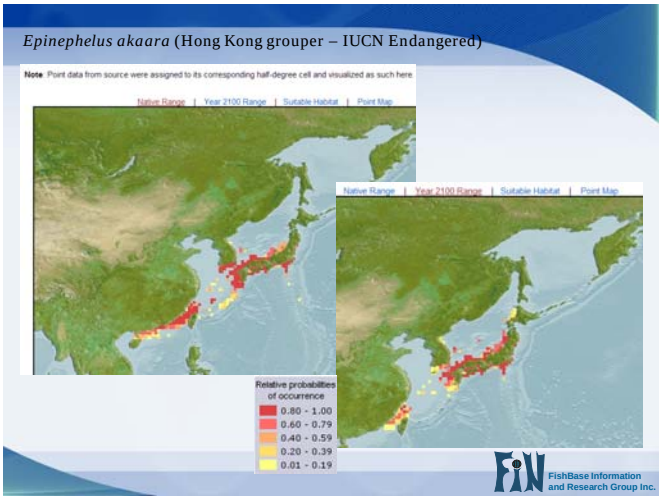


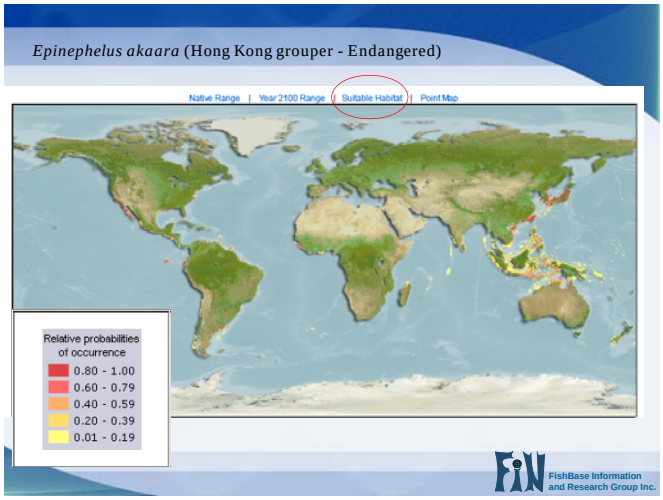
FishBase Information and Research Group Inc.

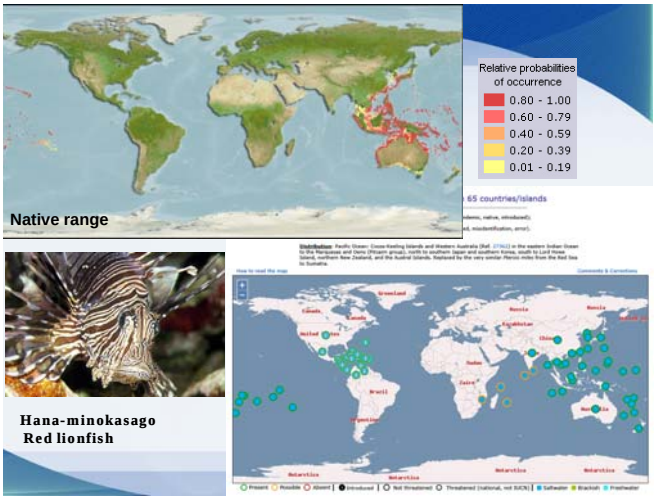

Number of species of non-finfish per half-degree cell
1 - 36
37 - 152
153 - 463
464 - 1323
1324 - 2877
FishBase Information and Research Group Inc.

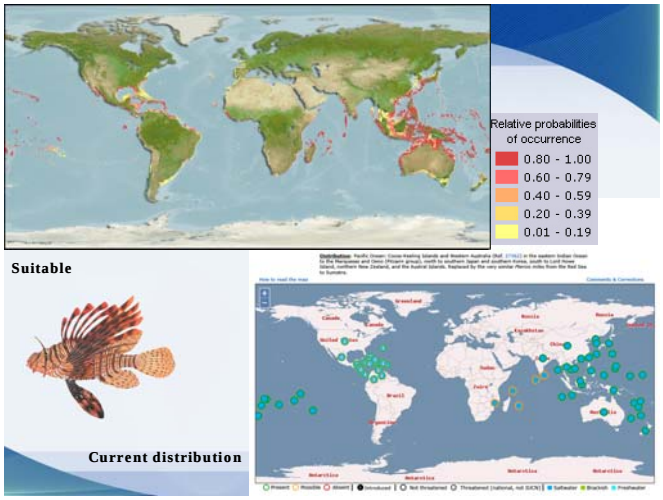

Decapterus maruadsi
Japanese scad
Galunggong
Species Environmental Envelopes:
Min
Pref Min (10th)
Pref Max (90th)
Max
Depth (m) 0 0 20 200
Water temp. (°C) (surface) 18.41 21.93 27.92 32.12
Salinity (psu) (surface) 32.46 33.45 35.04 35.82
Primary Production 284 300 1087 1726.5
2010
2100
Relative probabilities of occurrence:
0.80 - 1.00
0.60 - 0.79
0.40 - 0.59
0.20 - 0.39
0.01 - 0.19
Maps rendered by c-squares
Predictions of current and future distribution range of a species are rendered in color-coded maps indicating relative probabilities of species occurrence.

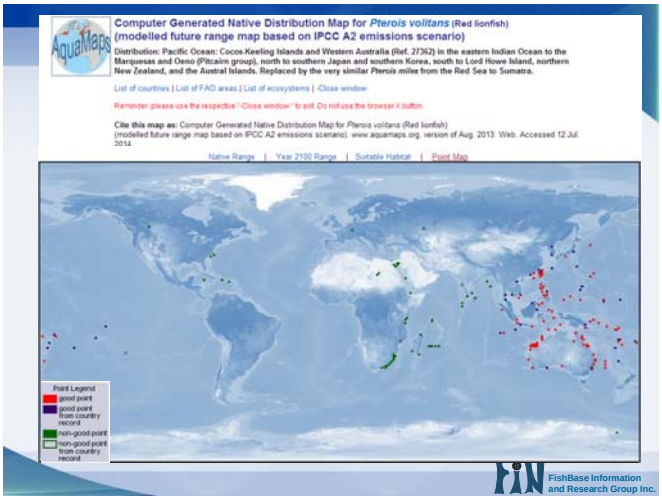

Epinephelus akaara (Hong Kong grouper - Endangered)
Native Range | Year 2100 Range | Suitable Habitat | Point Map
Point Legend
good point
good point from country record
non-good point
non-good point from country record
FishBase Information and Research Group Inc.

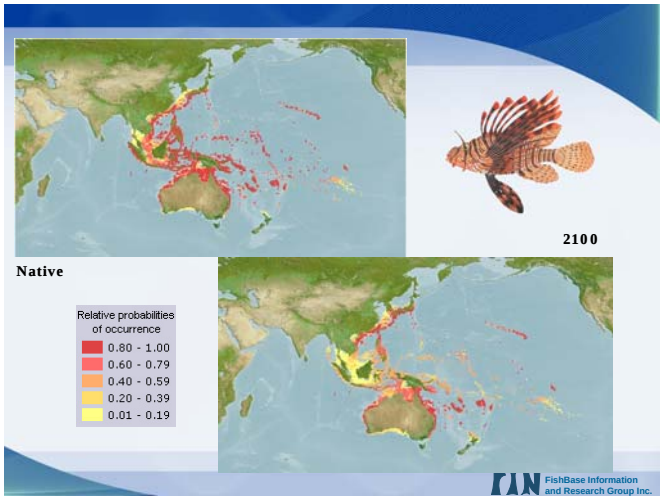

Epinephelus akaara (Hong Kong grouper – IUCN Endangered)
Note: Point data from source were assigned to its corresponding half-degree cell and visualized as such here.
Native Range | Year 2100 Range | Suitable Habitat | Point Map
Relative probabilities of occurrence
0.80 - 1.00
0.60 - 0.79
0.40 - 0.59
0.20 - 0.39
0.01 - 0.19
FishBase Information and Research Group Inc.

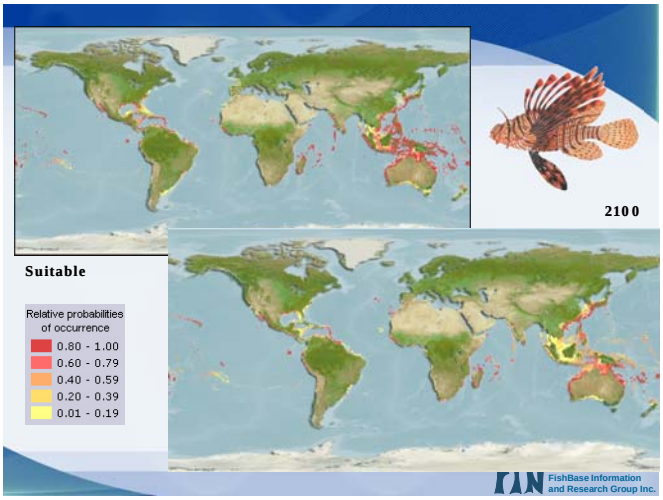

Epinephelus akaara (Hong Kong grouper - Endangered)
Native Range | Year 2100 Range | Suitable Habitat | Point Map
Relative probabilities of occurrence
0.80 - 1.00
0.60 - 0.79
0.40 - 0.59
0.20 - 0.39
0.01 - 0.19
FishBase Information and Research Group Inc.

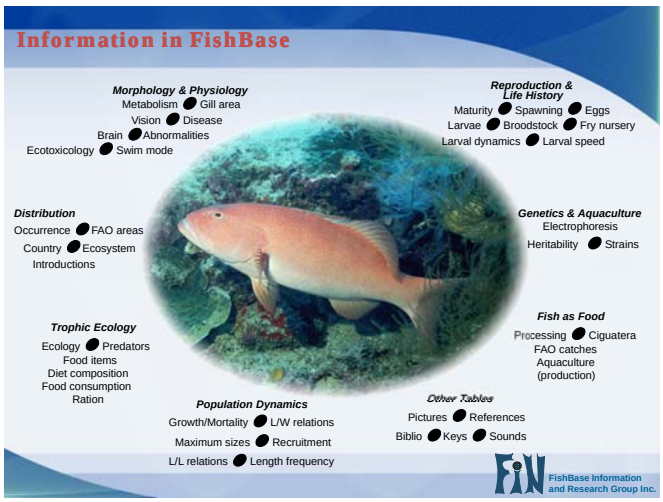

Native range
Relative probabilities of occurrence
0.80 - 1.00
0.60 - 0.79
0.40 - 0.59
0.20 - 0.39
0.01 - 0.19
65 countries/islands
Hana-minokasago
Red lionfish


Relative probabilities of occurrence
0.80 - 1.00
0.60 - 0.79
0.40 - 0.59
0.20 - 0.39
0.01 - 0.19
Suitable
Current distribution


Computer Generated Native Distribution Map for Pterois volitans (Red lionfish)
(modelled future range map based on IPCC A2 emissions scenario)
Distribution: Pacific Ocean: Cocos-Keeling Islands and Western Australia (Ref. 27362) in the eastern Indian Ocean to the Marquesas and Oeno (Pitcairn group), north to southern Japan and southern Korea, south to Lord Howe Island, northern New Zealand, and the Austral Islands. Replaced by the very similar Pterois miles from the Red Sea to Sumatra.
Native Range | Year 2100 Range | Suitable Habitat | Point Map
FishBase Information and Research Group Inc.


2100
Native
Relative probabilities of occurrence
0.80 - 1.00
0.60 - 0.79
0.40 - 0.59
0.20 - 0.39
0.01 - 0.19
FishBase Information and Research Group Inc.


2100
Suitable
Relative probabilities of occurrence
0.80 - 1.00
0.60 - 0.79
0.40 - 0.59
0.20 - 0.39
0.01 - 0.19
FishBase Information and Research Group Inc.


Information in FishBase
Morphology & Physiology
Metabolism Gill area
Vision Disease
Brain Abnormalities
Ecotoxicology Swim mode
Reproduction & Life History
Maturity Spawning Eggs
Larvae Broodstock Fry nursery
Larval dynamics Larval speed
Distribution
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Food items
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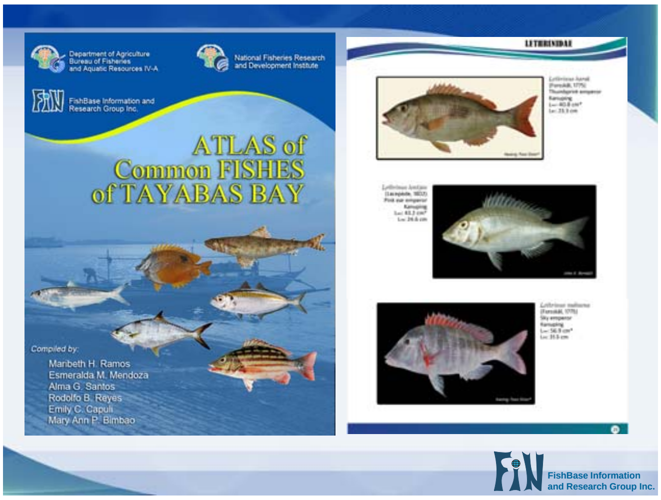
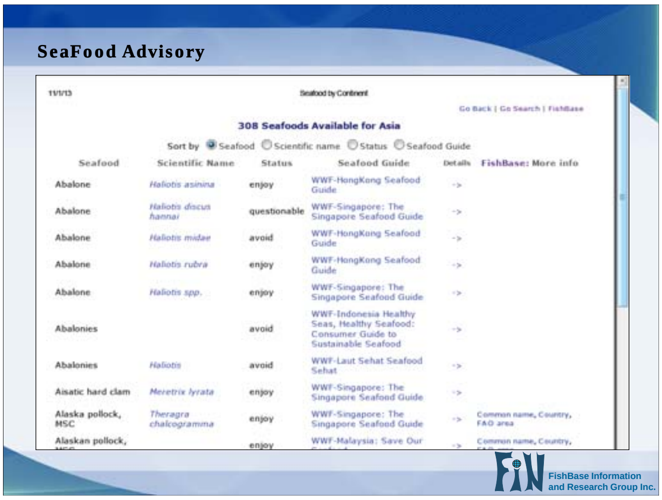
Fish as Food
Processing Ciguatera
FAO catches
Aquaculture (production)
Population Dynamics
Growth/Mortality L/W relations
Maximum sizes Recruitment
L/L relations Length frequency
Other Tables
Pictures References
Biblio Keys Sounds
FishBase Information and Research Group Inc.


Fish Ruler and Poster
The Fish Rulers and Posters are part of a campaign to urge fishers to catch, and consumers to buy only fish have reached maturity and spawned to contribute to the next generation of fishes.
FishBase Information and Research Group Inc.





Seafood	Scientific Name	Status	Seafood Guide	Details	FishBase: More info
Abalone	*Haliotis asinina*	enjoy	WWF-HongKong Seafood Guide	->	
Abalone	*Haliotis discus hannai*	questionable	WWF-Singapore: The Singapore Seafood Guide	->	
Abalone	*Haliotis midae*	avoid	WWF-HongKong Seafood Guide	->	
Abalone	*Haliotis rubra*	enjoy	WWF-HongKong Seafood Guide	->	
Abalone	*Haliotis spp.*	enjoy	WWF-Singapore: The Singapore Seafood Guide	->	
Abalonies		avoid	WWF-Indonesia Healthy Seas, Healthy Seafood: Consumer Guide to Sustainable Seafood	->	
Abalonies	*Haliotis*	avoid	WWF-Laut Sehat Seafood Sehat	->	
Aisatic hard clam	*Meretrix lyrata*	enjoy	WWF-Singapore: The Singapore Seafood Guide	->	
Alaska pollock, MSC	*Theragra chalcogramma*	enjoy	WWF-Singapore: The Singapore Seafood Guide	->	Common name, Country, FAO area
Alaskan pollock,		enjoy	WWF-Malaysia: Save Our	->	Common name, Country,

Dear FishBase users,

The World goes mobile and so does FishBase. We plan to offer a number of FishBase functionalities as dedicated Apps in the Apple AppStore and the Android Market. We will sell these Apps at 0.99 US$ and use the income to support and further develop FishBase, which will remain permanently free of charge at www.fishbase.org. This step is necessary, because raising 0.5 million US$ per year through research projects becomes more and more difficult. These are the cost for data encoding, programming and serving of FishBase, there is no profit involved.

We have designed the Apps to be fun to use. The first App is the Fish Quiz, available for iPhone, iPod touch and iPad at iTunes App Store.

A version for Android will follow soon.

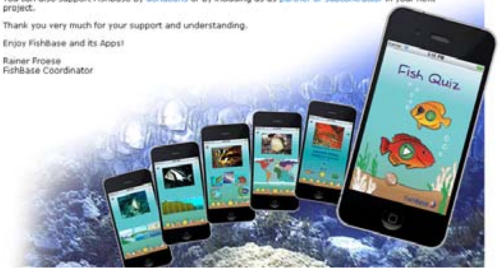
If you have suggestions for other Apps, please email us at fishquiz@fin.ph.

You can also support FishBase by donations or by including us as partner or subcontractor in your next project.

Thank you very much for your support and understanding.

Enjoy FishBase and its Apps!

Rainer Froese
FishBase Coordinator



FishBase Encoder Training Workshop

- Indonesia
- 19 participants
- 9 institutions

- Myanmar
- 10 participants
- 7 institutions

Customized workshops according to institutional needs: Common Names, Species Distribution, Life History, Population Dynamics, Fisheries or Aquatic Management Tools

FishBase with special emphasis on the finfishes Myanmar

Common Name

Scientific Name

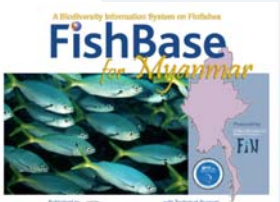
Genus
Species

Genus + Species

Glossary

Information by Family

Customized DVD



FishBase Information and Research Group Inc.

•References' Keywords include abbreviations
- Alert which publications cited specimens from which museums – materials examined).

•Biblio documents name used in a reference
- Stats of change in status and name combinations of references used are made possible.

FishBase Information and Research Group Inc.

List of Species Treated in Reference And Used in FishBase

Species	Name Used in Reference
Abalistes stellaris (Bloch & Schneider, 1801)	Abalistes stellaris (p. 356;pl.322)
Abbottina rivularis (Basilewsky, 1855)	Abbottina rivularis (p. 54;pl.55)
Ablabys taenianotus (Cuvier, 1829)	Amblyaptsturs taenianotus (p. 319;pl.285)
Ableennes hians (Valenciennes, 1846)	Ableennes hians (p. 78;pl.6)
Abudefduf bengalensis (Bloch, 1787)	Abudefduf bengalensis (p. 197;pl.188)
Abudefduf notatus (Day, 1870)	Abudefduf notatus (p. 196;pl.188-A)
Abudefduf septemfasciatus (Cuvier, 1830)	Abudefduf septemfasciatus (p. 196;pl.188-C)
Abudefduf sexfasciatus (Lacepède, 1801)	Abudefduf coelestinus (p. 197;pl.188)
Abudefduf sordidus (Forsskål, 1775)	Abudefduf sordidus (p. 196;pl.188-B)
Abudefduf vaigiensis (Quoy & Gaimard, 1825)	Abudefduf vaigiensis (p. 196;pl.188)
Acanthaphritis barbata (Okamura & Kishida, 1963)	Spinapsaron barbatum (p. 290;pl.259)
Acanthocepola indica (Day, 1888)	Acanthocepola indica (p. 201;pl.192)
Acanthocepola krusensternii (Temminck & Schlegel, 1845)	Acanthocepola krusensterni (p. 201;pl
Acanthocepola limbata (Valenciennes, 1835)	Acanthocepola limbata (p. 201;pl.192)
Acanthocybium solandri (Cuvier, 1832)	Acanthocybium solandri (p. 225;pl.220)
Acanthogobius flavimanus (Temminck & Schlegel, 1845)	Acanthogobius flavimanus (p. 278;pl.25
Acanthogobius hasta (Temminck & Schlegel, 1845)	Acanthogobius hasta (p. 278;pl.253)
Acanthogobius lactipes (Hilgendorf, 1879)	Acanthogobius lactipes (p. 278;pl.253)
Acantholumpenus mackayi (Gilbert, 1896)	Acantholumpenus mackayi (p. 301;pl.27
Acanthonus armatus Günther, 1878	Acanthonus armatus (p. 99;pl.84)
Acanthopagrus australis (Günther, 1859)	Acanthopagrus australis (p. 178;pl.167)
Acanthopagrus latus (Houttuyn, 1782)	Acanthopagrus latus (p. 178;pl.167)

Status of use: used in part
Number of species used: 3246
Names that are still valid: 2422 (74%)
Of the invalid names:
285 (8%) are now in another Genus.
184 (5%) are misspellings.
68 (2%) are misidentifications, and
215 (6%) are synonyms

FishBase Information and Research Group Inc.

Gaps:

•Species and Country-specific data
-Literature in non-English language cannot be encoded by the team;

•Occurrence (georeferenced points)
-Important to fine-tune environmental envelopes suitable for the species;

•Links to existing GSDs (data sharing and validation)
-Comparison of checklists especially occurrence and status;

•Country Red lists (and by Subcountries)
-Abundance, regulations, conservation status

FishBase Information and Research Group Inc.

FishBase

CONSORTIUM

- WorldFish Center
- Food and Agriculture Organization of the United Nations
- Leibniz Institute of Marine Sciences, Kiel
- Swedish Museum of Natural History
- Musée Royal d'Afrique Centrale, Tervuren
- Muséum National d'Histoire Naturelle
- Fisheries Centre, University of British Columbia
- Aristotle University Thessaloniki
- Chinese Academy of Fishery Sciences

Thank you !

www.sealifebase.org

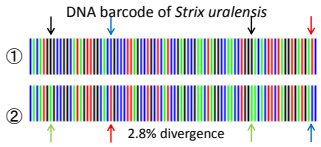
FishBase Information
and Research Group Inc.

Regional and World Bird Checklists: Importance of Standardization of Bird Names

Isao Nishiumi (Department of Zoology, National Museum of Nature and Science, Tokyo)

① *S. u. hondoensis*

② *S. u. japonica*



1. Bird migration and conservation

2. National and world checklist of birds, in case of Japan

Most endangered species of birds are migrant.

Japanese Red List species (or subspecies)

Resident Birds	Migrant Birds
52 taxa	84 taxa

More than 60% of endangered birds are migrant.

Migration routes were investigated using Satellite-Tracking in some large bird species.

White-naped Crane *Grus vipio*

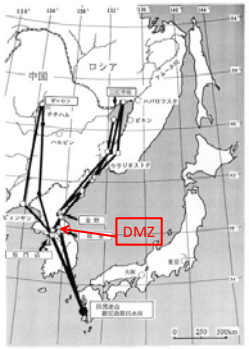
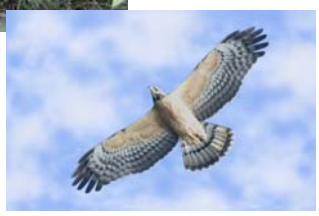


図3．鹿児島県出水市から北上するマナヅルの渡り経路．
衛星追跡の結果より．Higuchi *et al.*（1996）

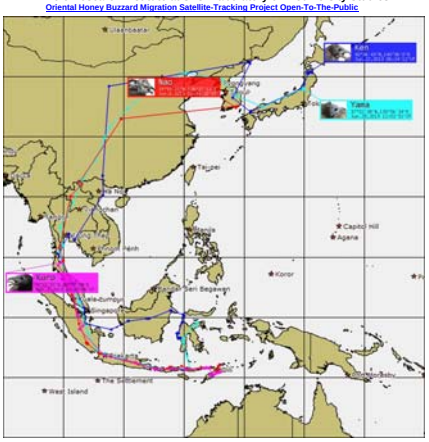
Photo: Teruo Nakamura



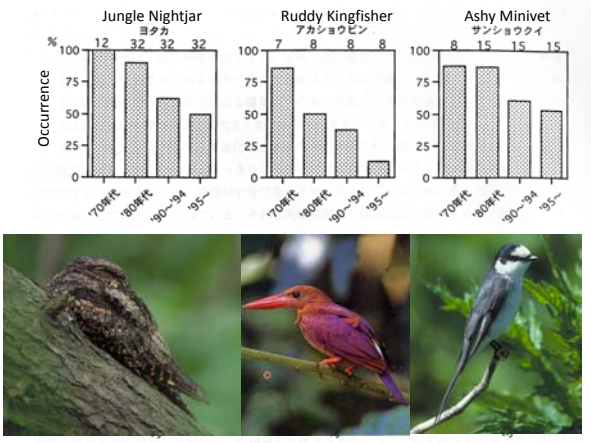
A migrant raptor
Oriental Honey Buzzard
ハチクマ
Pernis ptilorhynchus orientalis

Prof. Hiroyoshi Higuchi's Homepage

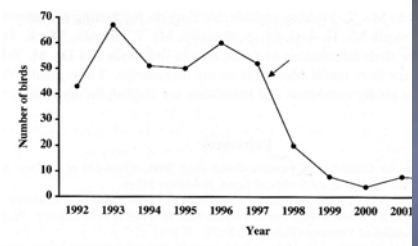
Keio Research Institute at SFC -Laboratory of Biodiversity Studies
Oriental Honey Buzzard Migration Satellite-Tracking Project Open-To-The-Public



Populations of migrant small birds were declined during 1980's to 1990's in Japan.

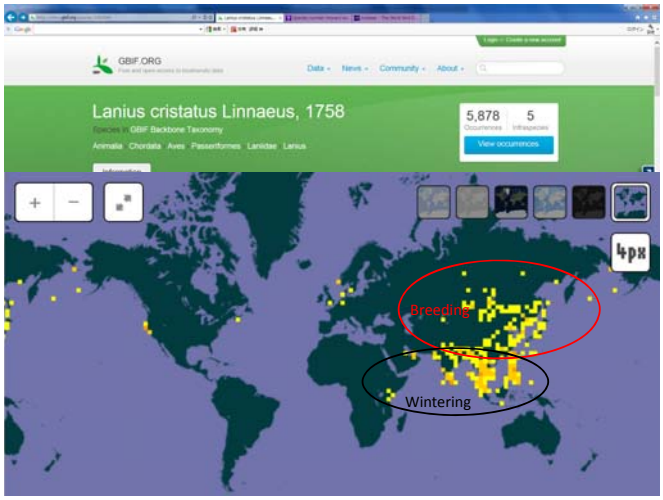


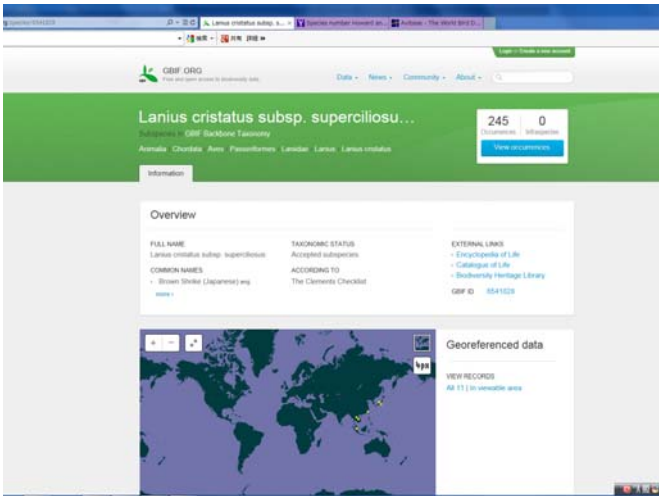
Rapid shrink of a breeding population of Brown Shrike in central Japan is occurred in the same year (1997) as a big bushfire in Indonesian Kalimantan I., which is supposed wintering region of the population.



Change of breeding population of Brown Shrike from 1992 to 2002 at study plateau, central Japan. An arrow shows the start of the fires in Indonesia.

Brown Shrike *Lanius cristatus*アカモズ

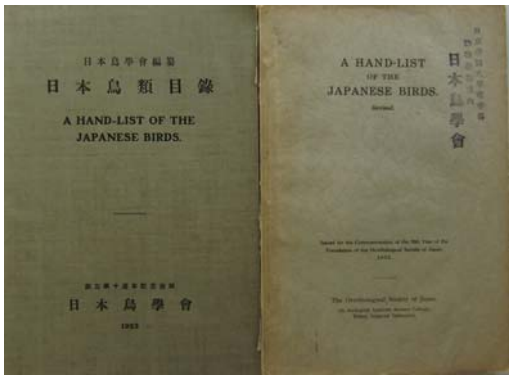




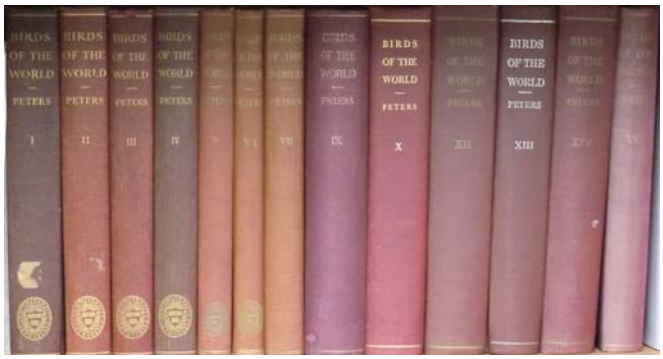
1. Bird migration and conservation

2. National and world checklist of birds, in case of Japan

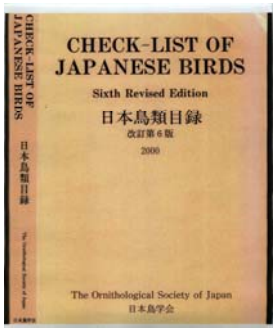
The Japanese checklist has been published only by Ornithological Society of Japan since 1922.



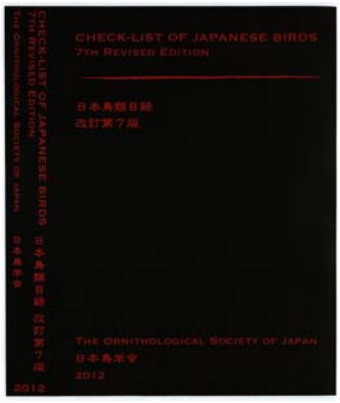
Peters Checklist (1931-1986) was the first worldwide checklist of the birds.
About 9,000 species are listed in the world. There was tendency of species lumping.



The Japanese Checklist 6th edition published in 2000
mainly followed Peters Checklist.



Two years ago it was revised to the latest 7th edition.



Among 542 listed species shared with the 6th edition published in 2000,
62 species (11.4%) were changed in the scientific name.

	Japanese Name	Old Genus Name	Changed Scientific Name
1	アホウドリ	*Diomedea*	*Phoebastria albatrus*
2	コアホウドリ	*Diomedea*	*Phoebastria immutabilis*
3	クロアシアホウドリ	*Diomedea*	*Phoebastria nigripes*
4	ササゴイ		*Butorides striata*
5	ダイサギ	*Egretta*	*Ardea alba*
6	クロトキ		*Threskiornis melanocephalus*
7	シジュウカラガン		*Branta hutchinsii*
8	カルガモ		*Anas zonorhyncha*
9	クロガモ		*Melanitta americana*
10	ミコアイサ	*Mergus*	*Mergellus albellus*
11	ハチクマ		*Pernis ptilorhynchus*
12	クマタカ	*Spizaetus*	*Nisaetus nipalensis*
13	ライチョウ		*Lagopus mata*
14	シマクイナ		*Coturnicops exquisitus*
15	マミジロクイナ	*Poliolimnas*	*Porzana cinerea*
16	オオチドリ		*Charadrius veredus*
17	コバシチドリ	*Eudromias*	*Charadrius morinellus*
18	ミユビシギ	*Crocethia*	*Calidris alba*
19	アシナガシギ	*Micropalama*	*Calidris himantopus*
20	オオトウゾクカモメ	*Catharacta*	*Stercorarius maccormicki*
21	クロハラアジサシ		*Chlidonias hybrida*
22	オニアジサシ	*Hydroprogne*	*Sterna caspia*
23	オオアジサシ	*Thalasseus*	*Sterna bergii*
24	マダラウミスズメ		*Brachyramphus perdix*
25	エトピリカ	*Lunda*	*Fratercula cirrhata*
26	アオバト	*Sphenurus*	*Treron sieboldii*
27	ズアカアオバト	*Sphenurus*	*Treron formosae*
28	ジュウイチ	*Cuculus*	*Hierococcyx hyperythrus*
29	ツツドリ		*Cuculus optatus*
30	シロフクロウ	*Nyctea*	*Bubo scandiacus*
31	コノハズク		*Otus sunia*
32	ヒメアマツバメ		*Apus nipalensis*
33	ヤマセミ	*Ceryle*	*Megaceryle lugubris*
34	ミヤコショウビン	*Halcyon*	*Todiramphus miyakoensis*
35	ナンヨウショウビン	*Halcyon*	*Todiramphus chloris*
36	ヤイロチョウ		*Pitta nympha*
37	ヒメコウテンシ		*Calandrella brachydactyla*
38	イワツバメ		*Delichon dasypus*
39	マミジロタヒバリ		*Anthus richardi*
40	タヒバリ		*Anthus rubescens*
41	コマドリ	*Erithacus*	*Luscinia akahige*
42	アカヒゲ	*Erithacus*	*Luscinia komadori*
43	ノビタキ		*Saxicola torquatus*
44	ヤマザキヒタキ		*Saxicola ferreus*
45	オガサワラガビチョウ	*Cichlopasser*	*Cichlopasser terrestris*
46	マミジロ	*Turdus*	*Zoothera sibirica*
47	オオヨシキリ		*Acrocephalus orientalis*
48	メボソムシクイ		*Phylloscopus xanthodryas*
49	ハシブトガラ	*Parus*	*Poecile palustris*
50	コガラ	*Parus*	*Poecile montanus*
51	ヒガラ	*Parus*	*Periparus ater*
52	ヤマガラ	*Parus*	*Poecile varius*
53	ルリガラ	*Parus*	*Cyanistes cyanus*
54	シジュウカラ		*Parus minor*
55	カワラヒワ	*Carduelis*	*Chloris sinica*
56	ギンムクドリ	*Sturnus*	*Spodiopsar sericeus*
57	シベリアムクドリ	*Sturnus*	*Agropsar sturninus*
58	コムクドリ	*Sturnus*	*Agropsar philippensis*
59	カラムクドリ	*Sturnus*	*Sturnia sinensis*
60	ムクドリ	*Sturnus*	*Spodiopsar cineraceus*
61	モリツバメ		*Artamus leucorynchus*
62	オナガ		*Cyanopica cyanus*

In many cases, the genus or species were split.

There are 3 big checklists of the world birds now

1) IOC World Bird List
is utilizable only through online,
authorized by International Ornithologists' Union
and used by the Tree of Life.

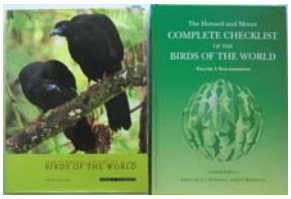
latest version 4.2 (2014)
Species 10,680
Subspecies 20,964

2) Clements Checklist ver. 6.0 (2007) is
used by CBoL for DNA Barcoding.

ver. 6.8 (2013)
Species 10,324
Subspecies 20,864

3) Howard and Moore Checklist mainly
consulted revision of Japanese Checklists.

3rd ed. (2006)
Species 9,693
Subspecies 21,737



Tendency of increasing number of species

Peters Checklist (1931-1986) listed about 9,000 species

Modern checklists list about 10,500 species

About 1,500 species increased for these 30 years.

→ Only a few new species of birds are discovered a year in these years

New species less than 100 since Peters Checklist
Splitting of species about 1,400

MOLECULAR ECOLOGY RESOURCES
Molecular Ecology Resources (2014) doi: 10.1111/ 1755-0998.12282

DNA barcoding reveals 24 distinct lineages as cryptic bird species candidates in and around the Japanese Archipelago

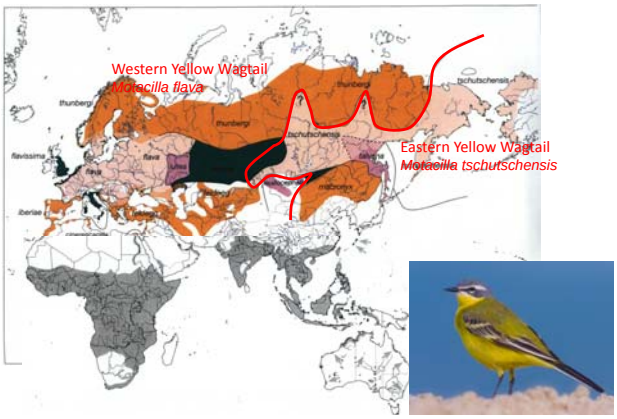
TAKEMA SAITOH,* [1]NORIMASA SUGITA, †SAYAKA SOMEYA, †YASUKO IWAMI,* † SAYAKA KOBAYASHI,* HIROMI KAMIGAICHI, †AKI HIGUCHI, †SHIGEKI ASAI,* YOSHIHIRO YAMAMOTO* and ISAO NISHIUMI †
*Division of Natural History, Yamashina Institute for Ornithology, 115 Konoyama, Abiko, Chiba 270-1145, Japan, †Department of Zoology, National Museum of Nature and Science, Amakubo 4-1-1, Tsukuba, Ibaraki 305-0005, Japan

Oriental Green Finches in mainland of Japan ←and in Bonin Islands ↓ are distinct lineages each other.

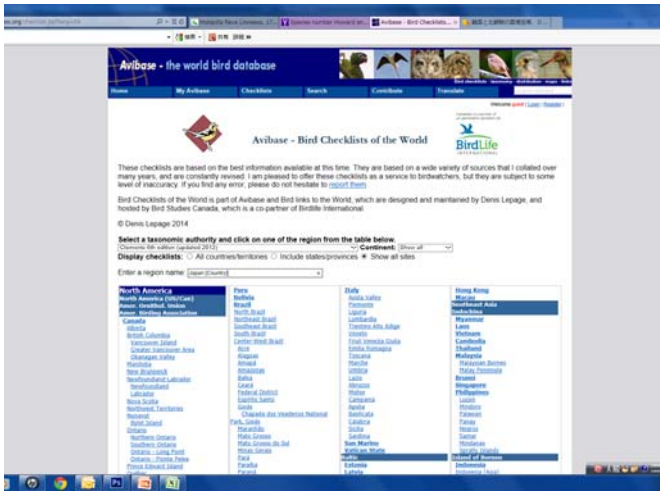
An example of conflicts among the 3 big checklists on species boundaries in Yellow Wagtail.

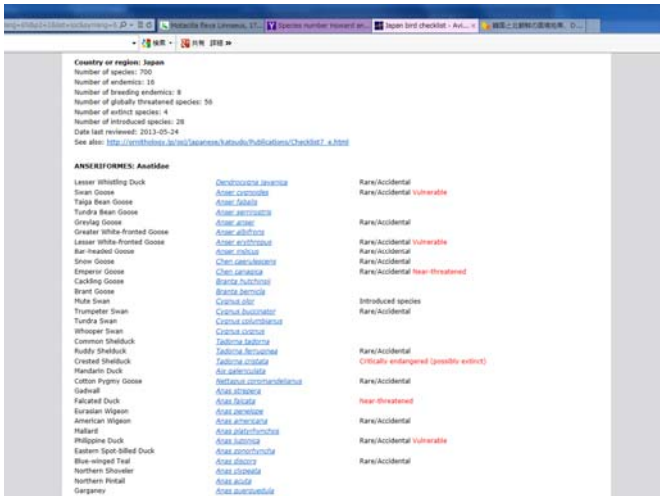
	IOC 4.2 = Catalogue of Life (2014)	Clements 6.8 (2013)	Howard and Moore v3 (2008)	= Japanese List 7 ed. (2012)
species	Western Yellow Wagtail *Motacilla flava* Linnaeus, 1758	Western Yellow Wagtail *Motacilla flava* Linnaeus, 1758	Yellow Wagtail *Motacilla flava* Linnaeus, 1758	Yellow Wagtail *Motacilla flava* ツメナガセキレイ
group (monotypic)	*Motacilla flava flavissima*	*Motacilla flava flavissima*	*Motacilla flava flavissima*	
group (monotypic)	*Motacilla flava thunbergi*	*Motacilla flava thunbergi*	*Motacilla flava thunbergi*	
group (polytypic)		*Motacilla flava flava/beema*		
subspecies	*Motacilla flava flava*	*Motacilla flava flava*	*Motacilla flava flava*	
subspecies	*Motacilla flava beema*	*Motacilla flava beema*	*Motacilla flava beema*	
group (polytypic)		*Motacilla flava [cinereocapilla Group]*		
subspecies	*Motacilla flava iberiae*	*Motacilla flava iberiae*	*Motacilla flava iberiae*	
subspecies	*Motacilla flava cinereocapilla*	*Motacilla flava cinereocapilla*	*Motacilla flava cinereocapilla*	
subspecies	*Motacilla flava pygmaea*	*Motacilla flava pygmaea*	*Motacilla flava pygmaea*	
group (monotypic)	*Motacilla flava lutea*	*Motacilla flava lutea*	*Motacilla flava lutea*	
group (monotypic)	*Motacilla flava feldegg*	*Motacilla flava feldegg*	*Motacilla flava feldegg*	
group (monotypic)	*Motacilla flava leucocephala*	*Motacilla flava leucocephala*	*Motacilla flava leucocephala*	Motacilla flava leucocephala
species	Eastern Yellow Wagtail *Motacilla tschutschensis* Gmelin, 1789	Eastern Yellow Wagtail *Motacilla tschutschensis* Gmelin, 1789	merged with *M. flava*	merged with *M. flava*
group (polytypic)		*Motacilla tschutschensis/plexa*		
subspecies	merged with *M. flava thunbergi*?	*Motacilla tschutschensis plexa*	*Motacilla flava plexa*	Motacilla flava plexa
subspecies	*Motacilla tschutschensis tschutschensis*	*Motacilla tschutschensis tschutschensis*	*Motacilla flava tschutschensis*	
subspecies	merged with *M. t. tschutschensis*?	merged with *M. t. tschutschensis*, following Alström and Mild (2003)	*Motacilla flava simillima*	Motacilla flava simillima
subspecies	*Motacilla tschutschensis angarensis*	merged with *M. t. tschutschensis*, following Alström and Mild (2004)	merged with *macronyx*	
subspecies	merged with *M. t. tschutschensis*?	merged with *M. t. tschutschensis*?	*Motacilla flava zaissanensis*	
subspecies	merged with *M. t. tschutschensis*?	merged with *M. t. tschutschensis*?	*Motacilla flava melanogrisea*	
group (monotypic)	*Motacilla tschutschensis taivana*	*Motacilla tschutschensis taivana*	*Motacilla flava taivana*	Motacilla flava taivana
group (monotypic)	*Motacilla tschutschensis macronyx*	*Motacilla tschutschensis macronyx*	*Motacilla flava macronyx*	Motacilla flava macronyx

Breeding and wintering range of Yellow Wagtail.



For birds, it is very easy to get your national checklist by using a Canadian website database “Avibase” .





Country or region: Japan
Number of species: 700
Number of endemics: 16
Number of breeding endemics: 8
Number of globally threatened species: 56
Number of extinct species: 4
Number of introduced species: 28
Data last reviewed: 2013-05-24
See also: http://ornithology.jp/en/japanese/katsudo/Publications/Checklist7_e.html

ANSERIFORMES: Anatidae

Lesser Whistling Duck	Dendrocygna javanica	Rare/Accidental
Swan Goose	Anser cygnoides	Rare/Accidental Vulnerable
Taiga Bean Goose	Anser fabalis	
Tundra Bean Goose	Anser serrirostris	
Greylag Goose	Anser anser	Rare/Accidental
Greater White-fronted Goose	Anser albifrons	
Lesser White-fronted Goose	Anser erythropus	Rare/Accidental Vulnerable
Bar-headed Goose	Anser indicus	Rare/Accidental
Snow Goose	Chen caerulescens	Rare/Accidental
Emperor Goose	Chen canagica	Rare/Accidental Near-threatened
Cackling Goose	Branta hutchinsii	
Brant Goose	Branta bernicla	
Mute Swan	Cygnus olor	Introduced species
Trumpeter Swan	Cygnus buccinator	Rare/Accidental
Tundra Swan	Cygnus columbianus	
Whooper Swan	Cygnus cygnus	
Common Shelduck	Tadorna tadorna	
Ruddy Shelduck	Tadorna ferruginea	Rare/Accidental
Crested Shelduck	Tadorna cristata	Critically endangered (possibly extinct)
Mandarin Duck	Aix galericulata	
Cotton Pygmy Goose	Nettapus coromandelianus	Rare/Accidental
Gadwall	Anas strepera	
Falcated Duck	Anas falcata	Near-threatened
Eurasian Wigeon	Anas penelope	
American Wigeon	Anas americana	Rare/Accidental
Mallard	Anas platyrhynchos	
Philippine Duck	Anas luzonica	Rare/Accidental Vulnerable
Eastern Spot-billed Duck	Anas zonorhyncha	
Blue-winged Teal	Anas discors	Rare/Accidental
Northern Shoveler	Anas clypeata	
Northern Pintail	Anas acuta	
Garganey	Anas querquedula	

Data cleaning for Asian Red & IAS Lists

Yu-Huang Wang
TaiBIF Node Manager
17 July 2014, Tsukuba, Japan

Purposes

- Check correctness of names and consistency of higher taxonomic rank based on GBIF backbone taxonomy
- Check correctness of names based on COL 4D4Life list matching service
(http://www.catalogueoflife.org/listmatching/)

Matching results from 4D4Life

- Multiple accepted names
- Temporarily accepted names
- synonyms
- Unmatched names
- No information on higher taxonomic ranks

Matching steps on 4D4Life

- 1st matching
  - Input all names
  - choose "Only accepted names"
- 2nd matching
  - Input unmatched names from 1st matching
  - Check off "Only accepted names"
- Number of accepted names =
Total – number of unmatched from 1st matching

Matching results from GBIF

Status	Red list	IAS list
Input	13,018	1,648
No value	1	4
unmatched	3,722	53
matched	9,295	1,591

Matching results from COL

Status	Red list	IAS list
Input	13,018	1,648
No value	1	4
unmatched	2,795	195
synonym/ambiguous synonym/provisionally accepted	1,298	295
matched	8,924	1,154

RedList matching results from COL & GBIF

Status	COL	GBIF
Input	13,018	13,018
No value	1	1
unmatched	2,795	3,722
synonym/ambiguous synonym/provisionally accepted	1,298	NA
matched	8,924	9,295

IASList matching results from COL & GBIF

Status	COL	GBIF
Input	1,648	1,648
No value	4	4
unmatched	195	53
synonym/ambiguous synonym/provisionally accepted	295	NA
matched	1,154	1,591

Multiple accepted names in COL

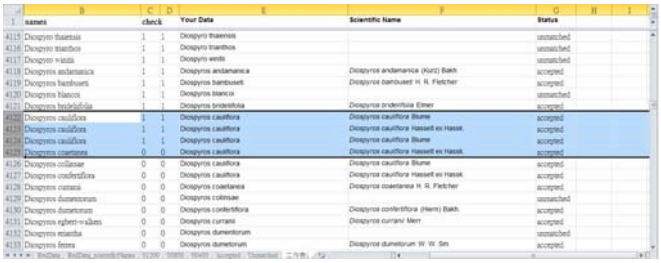
- Ardisia montana
  - Ardisia montana King & Gamble
  - Ardisia montana Sieb. ex Miq.
- Corydalis gigantea
  - Corydalis gigantea Trautvetter & Meyer
  - Corydalis gigantea Trautv. & C. A. Mey.

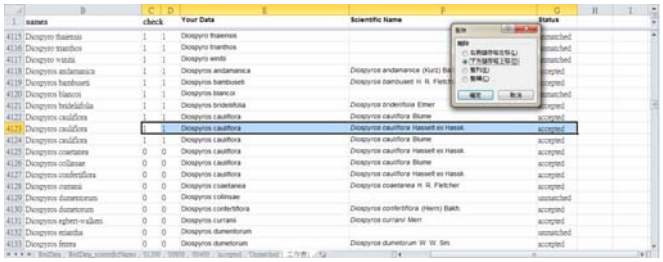
Multiple accepted names in COL

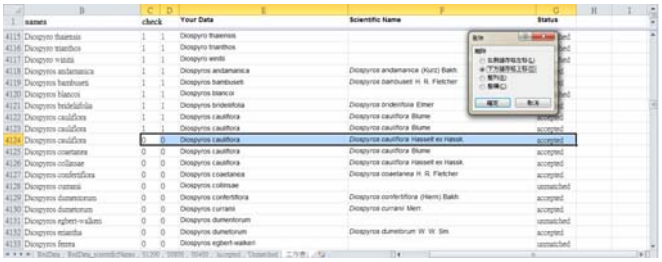
- Fontinalis antipyretica
  - Fontinalis antipyretica Hedwig, 1801
  - Fontinalis antipyretica (Renauld & Cardot) Cardot, 1891
  - Fontinalis antipyretica (Cardot in Coppey) Warnstorf, 1916
  - Fontinalis antipyretica (C. Müller) W. H. Welch in Grout, 1934

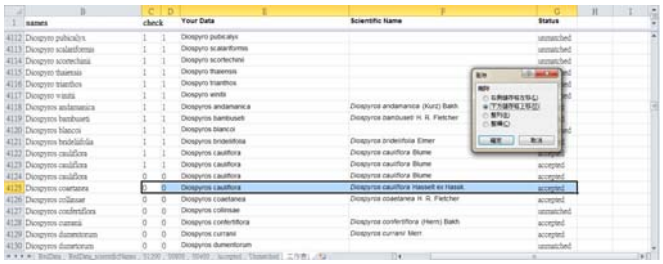
Multiple accepted names

- *Should we only keep one accepted name?*
- *Multiple accepted names* → different taxa?
- *Which one?*
- *Is it reasonable to omit other accepted names?*
- *Need expertise on checking scientific names*









Unmatched names

- Only genus name (uncertain species)
- Only first capital letter of a genus name
- Invalid names
- Typos

Next steps

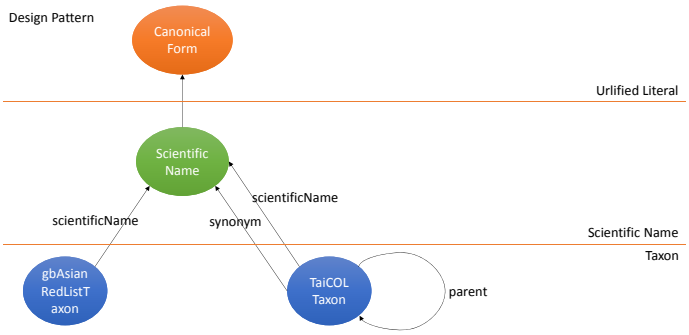
- Improve tools for checking scientific names
- Share labor on compiling & checking lists by each Asian country
- Publish checklist by each country as a linked open data (LOD) service

TaiCOL LOD

Jason Mai, TaiBIF programmer

Presented by Yu-Huang Wang, TaiBIF node manager

5th GBIF Asia Nodes Meeting (17 July 2014, Tsukuba, Japan)



Canonical Form

- The usage of a scientific name for a taxon may have different forms
  - http://gni.globalnames.org/name_strings?search_term=Ciconia+boyciana&commit=Search
  - Not easy for entity mapping / interlinking
- We clean up all meta info (such as year, author name, modification record) and keep Latin rank names only
  - **Ciconia boyciana** instead of Ciconia boyciana Swinhoe or Ciconia boyciana Swinhoe 1873
  - The term Canonical Form is borrowed from a function name originally written by Patrick Leary, Encyclopedia of Life
- URI – urlified literal
  - http://taibif.tw/lod/resource/CanonicalForm/Ciconia_boyciana

Scientific Name

- Scientific Name ID
  - =md5(rank1:rankName1/rank2:rankName2/…/rankX:rankNameX)
  - f6b5f0f315fa859cc6fdd7e83af1137e = kingdom:Animalia/phylum:Chordata/class:Aves/order:Ciconiiformes/family:Ciconiidae/genus:Ciconia/species:Ciconia boyciana)
  - Canonical Forms are used for rank names
  - Higher taxa are considered for detecting homonyms of canonical forms in different classification systems
- Scientific Name URI
  - http://taibif.tw/lod/resource/ScientificName/7a5b46c9a999cc7fd87d7832fc93c751

Taxon

- Taxon ID
  - Each scientific name is produced for a taxon
  - Use the same hash code as scientific name id with different namespace
- Taxon URI
  - http://taibif.tw/lod/resource/Species/7a5b46c9a999cc7fd87d7832fc93c751
- Benefit
  - Everyone / every institute can generate the hash code ids locally and use them globally

GB Asian Red List Taxon

- Taxa in the red lists of 7 different countries
  - Data are from the recent integration of red list of 7 GBIF Asian members
- URI
  - Contains country name and meaningless serial number
  - http://taibif.tw/lod/resource/gbAsianRedList/Philippines/2963
  - http://taibif.tw/lod/resource/gbAsianRedList/Korea/5499
  - http://taibif.tw/lod/resource/gbAsianRedList/Taiwan/6510
  - http://taibif.tw/lod/resource/gbAsianRedList/Japan/8223

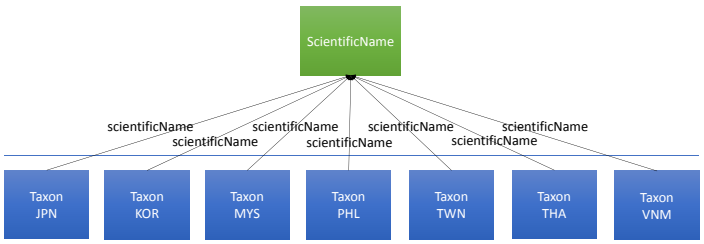
SPARQL Endpoint

- http://140.109.28.72:8890/sparql
- Default graph
  - http://taibif.tw/lod/taicol_20140619

Query example 1

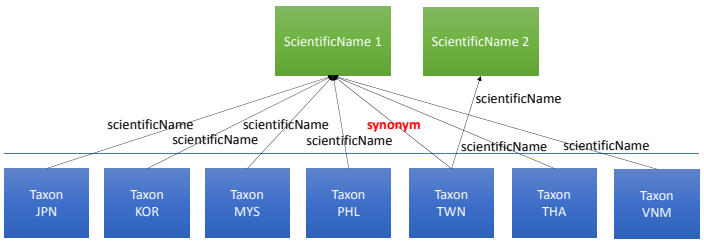
- Different semantic level for taxon mapping

Taxa use the same scientific name existed in TaiCOL



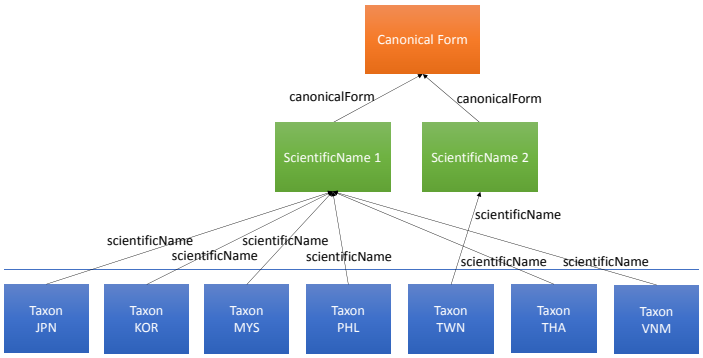

```
prefix spv: <http://taibif.tw/lod/resource/vocab/>
select ?rlt as ?RedListTaxon ?sp as ?TaiCOL_Species ?snLabel as ?SciName ?vn as ?VernacularName ?vntw as ?VernacularNameTW ?rank ?redNote{
  ?sn a spv:ScientificName.
  ?sn skos:prefLabel ?snLabel.

  ?rlt spv:scientificName ?sn.
  ?rlt spv:prefVernacularName_s ?vn.
  ?rlt a spv:gbAsianRedListTaxon.
  ?rlt spv:redRank ?rank.

  ?sp spv:scientificName ?sn.
  ?sp a spv:Species.
  ?sp spv:prefVernacularName_s ?vntw.

  optional {
    ?rlt spv:redNote_s ?redNote.
  }

  filter (str(?rank) != "http://taibif.tw/lod/resource/RedRank/")
}
order by ?RedListTaxon
limit 100
```

Taxa use the same scientific name with different status existed in TaiCOL




```
prefix spv: <http://taibif.tw/lod/resource/vocab/>
select ?rlt as ?RedListTaxon ?sp as ?TaiCOL_Species ?snLabel as ?SciName ?vn as ?VernacularName ?vntw as ?VernacularNameTW ?rank ?redNote{
  ?sn a spv:ScientificName.
  ?sn skos:prefLabel ?snLabel.

  ?rlt spv:scientificName ?sn.
  ?rlt spv:prefVernacularName_s ?vn.
  ?rlt a spv:gbAsianRedListTaxon.
  ?rlt spv:redRank ?rank.

  ?sp spv:synonym ?sn.
  ?sp a spv:Species.
  ?sp spv:prefVernacularName_s ?vntw.

  optional {
    ?rlt spv:redNote_s ?redNote.
  }

  filter (str(?rank) != "http://taibif.tw/lod/resource/RedRank/")
}
order by ?RedListTaxon
limit 100
```

Taxa use scientific names with the same canonical form and with different classification systems existed in TaiCOL




```
prefix spv: <http://taibif.tw/lod/resource/vocab/>
select ?cf ?sn1 ?sn2 ?rlt as ?RedListTaxon ?sp as ?TaiCOL_Species ?snLabel as ?SciName ?vn as ?VernacularName ?vntw
as ?VernacularNameTW ?rank ?redNote{
  ?sn1 a spv:ScientificName.
  ?sn2 a spv:ScientificName.
  ?sn1 skos:prefLabel ?snLabel.

  ?sn1 spv:canonicalForm ?cf.
  ?rlt spv:scientificName ?sn1.
  ?rlt spv:prefVernacularName_s ?vn.
  ?rlt a spv:gbAsianRedListTaxon.
  ?rlt spv:redRank ?rank.

  ?sn2 spv:canonicalForm ?cf.
  ?sp spv:scientificName ?sn2.
  ?sp a spv:Species.
  ?sp spv:prefVernacularName_s ?vntw.

  optional {
    ?rlt spv:redNote_s ?redNote.
  }

  filter (str(?rank) != "http://taibif.tw/lod/resource/RedRank/")
  filter (?sn1 != ?sn2)
}
order by ?RedListTaxon
limit 100
```

Query example 2

- Useful information for regional integration

GB Asian Red List Taxa show up in most countries

```
prefix spv: <http://taibif.tw/lod/resource/vocab/>
select count(?rlt) as ?rcount ?sn ?SciName{
  ?sn a spv:ScientificName.

  ?rlt spv:scientificName ?sn.
  ?rlt a spv:gbAsianRedListTaxon.

  ?rlt spv:redRank ?rank.

  ?sp spv:scientificName ?sn.
  ?sp a spv:Species.
  ?sp skos:prefLabel ?SciName.

  optional {
    ?rlt spv:redNote_s ?redNote.
  }

  #filter (str(?rank) != "http://taibif.tw/lod/resource/RedRank/")
}
order by desc(?rcount)
```

Parallel Session: Review and Updating of the Scientific Theme (Fish Database)

■ Analysis of the Current Status

- China, Japan, Korea, Philippines and Taiwan have their national check lists of fishes.
- Many countries don't have their national check lists of fishes.
- Different scientific names are used in some checklists (e.g., China and Taiwan).

■ Achievable Goal

- Providing:

  Check list of fishes of South China Sea

  Check list of freshwater fishes of the region

  Compiled Red lists of fishes in the region

Additional subject: surveys on digitized data on fishes and hardy copy publications on fishes in local language of each country.

■ Rough Schedule

- By the end of September 2014: Get lists of fishes of local areas (e.g., Sulawesi, Indonesia; Sabah, Malaysia) through consulting ichthyologists in "Check List Lacking Countries" (e.g., Indonesia, Malaysia, Thailand and Vietnam).
- By the end of 2014: Check Lists of Fishes of South China Sea and Freshwater Fishes of the region.