



Our life depends on biodiversity and ecosystems. East and Southeast Asia is one of the richest biological diversity areas on the earth.



However, information and knowledge on biodiversity in this region

# ESABII East and Southeast Asia Biodiversity Information Initiative

available for its conservation and sustainability are still limited. More



biological information and taxonomic capacities are needed to secure rich biodiversity in this region.

“East and Southeast Asia Biodiversity Information Initiative (ESABII)” was launched by 14 countries in this region and relevant organizations to achieve goals of the Convention on Biological Diversity.



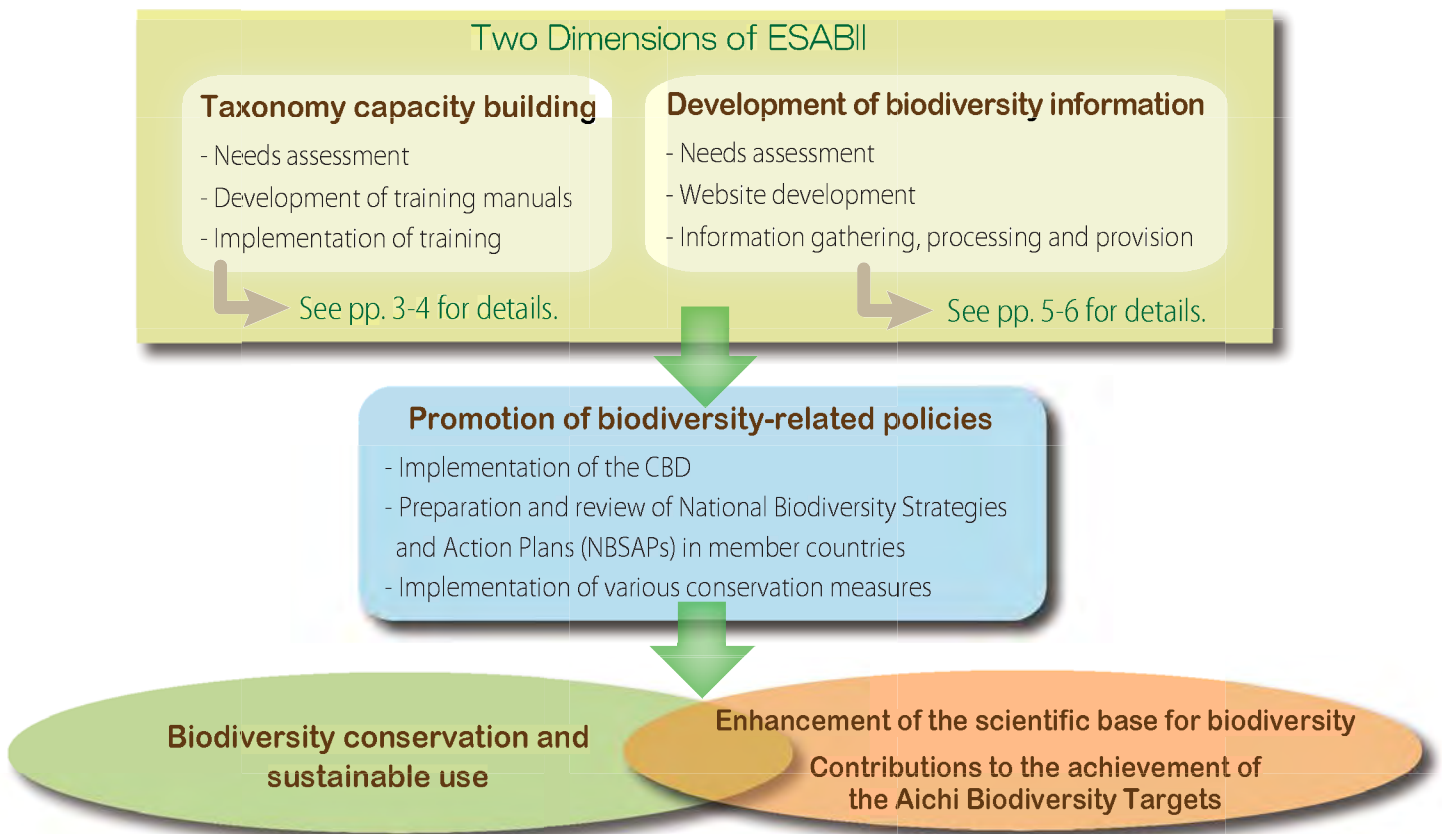
# What is ESABII?



In 1992, the Convention on Biological Diversity (CBD) was adopted as an international framework for the conservation of biodiversity as well as for the utilization of biological resources in a sustainable manner. The 4th meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD COP4) in 1998 decided to implement the Global Taxonomy Initiative (GTI). The CBD COP10 held in Nagoya City, Aichi Prefecture, Japan adopted the Strategic Plan for Biodiversity 2011-2020 (Aichi Biodiversity Targets), among which Target 19 was set to improve the knowledge, science base and technologies related to biodiversity.

The importance of taxonomy has increasingly been recognized as a global issue. While East and Southeast Asia have a much higher level of biodiversity than other parts of the world, there are insufficient numbers of personnel with the taxonomic knowledge and capacity required for biodiversity conservation. Moreover, information on biodiversity is limited and scattered, and information infrastructure for biodiversity is not fully developed in the region.

In this context, the East and Southeast Asia Biodiversity Information Initiative (ESABII) was launched to pursue capacity building in taxonomy and the development of an information system on biodiversity in East and Southeast Asia in order to contribute to the promotion of biodiversity conservation and the implementation of the CBD Strategic Plan in the area.

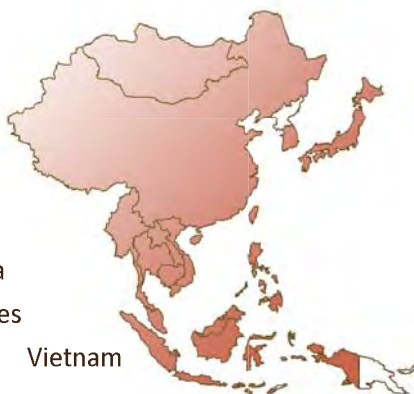


## ESABII Members

14 countries, three relevant organizations and two networks are members of ESABII as of October 2012.

### Countries

- |                   |                  |
|-------------------|------------------|
| Brunei Darussalam |                  |
| Cambodia          | China            |
| Indonesia         | Japan            |
| Korea             | Lao PDR          |
| Malaysia          | Mongolia         |
| Myanmar           | Philippines      |
| Singapore         | Thailand Vietnam |



### Organizations

- Secretariat of the CBD (ex-officio)
- ASEAN Centre for Biodiversity (ACB)
- Global Biodiversity Information Facility (GBIF)

### Networks

- Asia-Pacific Biodiversity Observation network (AP-BON)
- BioNET-INTERNATIONAL

# Progress of ESABII

**2009 Jan.** ESABII International Symposium and Expert meeting Tokyo, Japan  
• Discussion of Draft Strategy of ESABII

**May.** ASEAN+3 Regional Workshop on GTI: Needs Assessment and Networking Los Baños, Philippines  
• Circulation of Draft Strategy of ESABII

**Oct.** ASEAN Conference on Biodiversity Singapore  
• Side event for ESABII  
• Introduction of Draft Strategy of ESABII

**Dec.** ESABII Intergovernmental Meeting Tokyo, Japan  
• Agreement on Strategy and Work Plan of ESABII



**2010 May.** 14th meeting of the Subsidiary Body on Scientific, Technical and Technological Advice (CBD SBSTTA14) Nairobi, Kenya  
• Side event for ESABII

**Aug.** Inception Workshop: Taxonomic Capacity Building and Governance for Conservation and Sustainable Use of Biodiversity Manila, Philippines  
• Discussion of Implementation Plan of Training for Taxonomic Capacity Building (Coral/ Dicot Plant)

**Oct.** CBD COP10 Aichi-Nagoya, Japan  
• Side event for ESABII

ESABII & NaGISA Joint Conference  
• Introduction of ESABII Database

**Dec.** Training Workshop on Coral Taxonomy Penang, Malaysia



**2011 Jan.** Training of Trainers on CITES Policies and Species Identification Kuala Lumpur, Malaysia

**Feb.** Training Workshop on Taxonomy of Terrestrial Plants (Dicots) Bogor, Indonesia

Training Course on CITES Policies and Identification of Reptile Species Commonly Found in Trade Ho Chi Min, Vietnam

**Nov.** CBD SBSTTA15 Montreal, Canada  
• Side event for ESABII

**2012 Feb.** Training Courses on CITES Policies and Identification of Species Commonly Found in Trade Phnom Penh, Cambodia

**Mar.** Planning and Inception Workshop: Expanded Taxonomic Capacity Building and Governance for Conservation and Sustainable Use of Biodiversity Hanoi, Vietnam  
• Discussion of ESABII Work Plan for 2012-2013

Training Workshop on Taxonomy of Terrestrial Plants (Monocots) Bogor, Indonesia

**Oct.** CBD COP11 Hyderabad, India



## Implementation of Work Plan of ESABII

(Conducting training workshops and building ESABII database)

## Documents

- Strategy of ESABII and Work Plan

<http://www.esabii.org/>

- Result of Needs Assessment at ASEAN+3 Regional Workshop on GTI (May 2009)

<http://www.aseanbiodiversity.org>

# Capacity Building on Taxonomy in ESABII – Conducting Training Workshops –

Biodiversity conservation requires knowledge of the living organisms that inhabit and grow in an area because the species vary depending on the conditions of the habitat. The Clouded Salamander (*Hynobius nebulosus*), for instance, breeds in stagnant water, while the Hida Salamander (*Hynobius kimurae*) breeds in flowing water. Since they resemble each other, the specific characteristics of each species have to be known in advance to identify them. This field of knowledge is called taxonomy. Such knowledge must be shared widely in order to conserve biodiversity.

The number of taxonomic experts, however, is declining. In East and Southeast Asia, some countries, including China, Japan, Singapore and South Korea, have networks of taxonomic researchers such as academic societies, while many others do not have sufficient networks. Moreover, it is considered that the nurturing of a younger generation of taxonomists has not progressed well due to a lack of educational opportunities related to taxonomy and insufficient teaching materials and texts.

To address this shortfall, ESABII organizes workshops for taxonomic capacity building for young researchers and officials involved in biodiversity conservation.

## Taxonomy and Our Life

People in many countries in East and Southeast Asia consume wild plants and animals. As is often the case, food called by a single local name includes species of many taxonomic groups.



In a pack sold at a Lao market labeled “dragonfly larva”, for example, the “dragonfly larva” was composed of 300 *Epopthalmia*, 11 *Ictinogomphus*, 20 *Libellulidae*, including *Hydrobasilens croceus* and *Orthetrum*, 1 *Anax*, as well as 160 shrimps and 50 small fish, including *Trichopsis*. With taxonomic knowledge, we discover that diversity of a species is part of the gift of nature.

## Training Workshop on the Taxonomy of Terrestrial Plants

**[Dates]** Training Workshop on the Taxonomy of Terrestrial Plants on Dicots: February 16–23, 2011  
Monocots: March 12–16, 2012

**[Venue]** Indonesian Institute of Sciences (LIPI), Bogor, Indonesia

**[Participants]** Officials and researchers under 35 years of age engaged in botany, plant ecology and related fields who live in the 14 ESABII countries

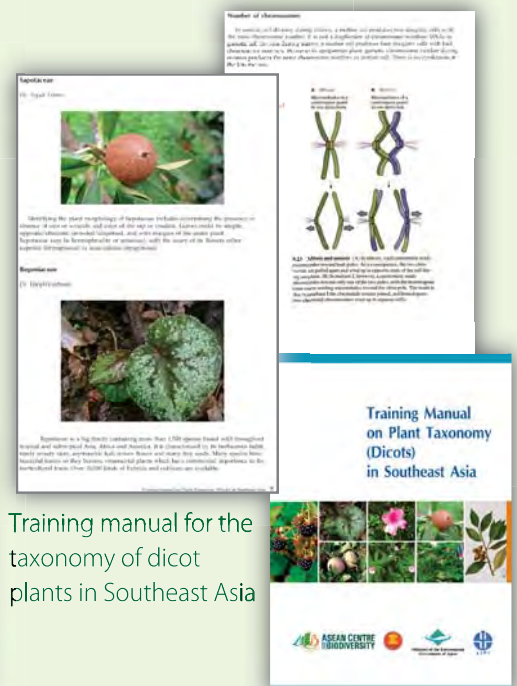
**[Brief description]** Lectures on general biological knowledge on the targeted plants were given prior to training on taxonomic techniques, including morphology classification, sampling methods and sample management, as well as information management. Forty-five participants in total in the two workshops acquired these taxonomic techniques and improved their skills in sample handling and management.



Molecular biology laboratory practice (2011)



Plant morphology practice using samples (2012)



Training manual for the taxonomy of dicot plants in Southeast Asia

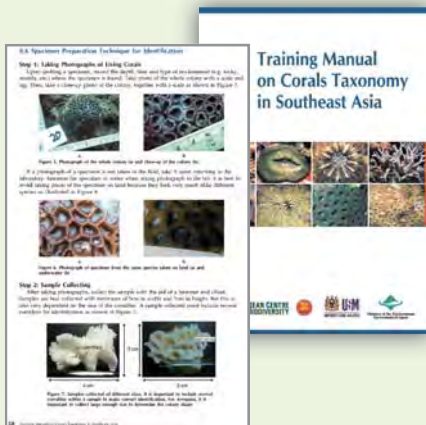
## Training Workshop on Corals

**[Date]** December 4-8, 2010

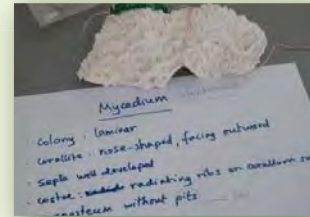
**[Venue]** University of Sciences Malaysia, Penang, Malaysia

**[Participants]** Thirty young officials and researchers from 9 ASEAN member countries

**[Brief description]** To improve their taxonomic capacity on reef-building corals, the participants learned advanced taxonomic techniques, including molecular techniques, photographic identification and the use of the Internet, as well as the basics of biology related to reef-building corals, and practiced taxonomic sampling, taxonomic cataloguing and a series of relevant management skills.



Training manual on corals taxonomy in Southeast Asia



## Training Workshop on Identification of the Species listed in the Appendices of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

### ● Training of Trainers (ToT) on CITES Policies and the Identification of Threatened Species

**[Date]** January 17-20, 2011

**[Venue]** Kuala Lumpur, Malaysia

**[Participants]** Thirty-five individuals from ASEAN member countries

**[Brief description]** The workshop was conducted to train trainers who would then be able to teach in their own countries about CITES, wildlife trade, relevant national laws and policies and the identification of reptile species traded in the area.



Country-specific training was organized by ToT participants in two countries.

### ● Training Course on CITES Policies and the Identification of Reptile Species Commonly Found in Trade

**[Date]** February 21-23, 2011

**[Venue]** Ho Chi Minh City, Vietnam

**[Participants]** Thirty-seven officials from Vietnam law-enforcement institutions and ministries and agencies



**[Brief description]** Participants learned about illegal trafficking of wildlife in the country and practiced identifying reptile species at Saigon Zoo.

### ● Training Course on CITES Policies and the Identification of Species Commonly Found in Trade

**[Dates]** February 13-15 and February 15-17, 2012

**[Venue]** Phnom Penh, Cambodia

**[Participants]** Seventy-five officials from Cambodian law-enforcement institutions and ministries and agencies

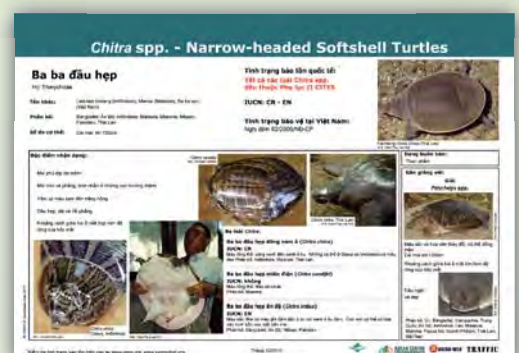


**[Brief description]** Lectures were conducted to provide both policy and scientific knowledge, including illegal trafficking practices and the identification of species. Practice in identifying tortoises and freshwater turtles was given.

### ● Development of Identification Sheets

Identification sheets that provide the information required to identify individual species, including those mainly listed in the CITES Appendices, that are frequently traded in Southeast Asia, have been created. They were translated into ASEAN local languages, Japanese and Chinese, and distributed to customs and other relevant agencies in the 10 ASEAN countries, Japan and China.

The example shows Vietnamese version of the identification sheet on Narrow-headed Softshell Turtles.



# Development of Biodiversity Information Systems in ESABII – Building ESABII Database –



Information technology and networks have made remarkable progress in biodiversity informatics. A variety of biodiversity information is now available on a global level over the Internet. However, such information is still limited and scattered in East and Southeast Asia. The communication infrastructure has not yet been developed adequately in this region. Hence, it is difficult for policy/ decision makers to access necessary information.

Therefore, ESABII gathers, compiles and processes data and information from available data sources, then develops necessary biodiversity information for conservation policies, and provides the information to policy/ decision makers.

## Process of the development of a biodiversity information system

### Data gathering and sharing

Information from the existing biodiversity monitoring programs

<Examples of the existing data>

- Results of the Asian Waterbirds Census
- Red List Spatial Data 2010

Information from taxonomy documents in the ESABII area

<Information related to legal protection>

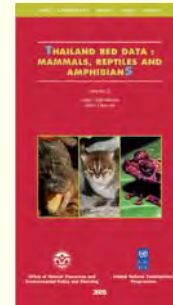
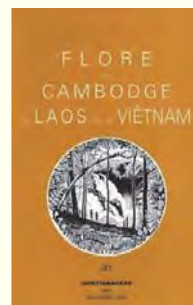
- Mongolian Law on Fauna
- Endangered Species Act (Singapore)
- Law of the People's Republic of China on the Protection of Wildlife (2004 Revision)

<Flora>

- Flora of Java
- Flora Malesiana
- Flore du Cambodge, du Laos, et du Vietnam

<Information related to legal protection>

- Endangered Species in Cambodia
- Red Data Book of Korea
- Thailand Red Data



Sharing information among the parties concerned in the member

### Editing and processing of the data

- Selecting information relevant to policy-making from items collected
- Processing of the research data into other forms, such as distribution charts, so as to be easily usable for the objectives

### Provision of the data to policy/decision-makers

Provision of the data through the website and feedback from users

## Utilization for biodiversity conservation measures

## Introduction of the ESABII Database <http://www.esabii.org/dataportal>

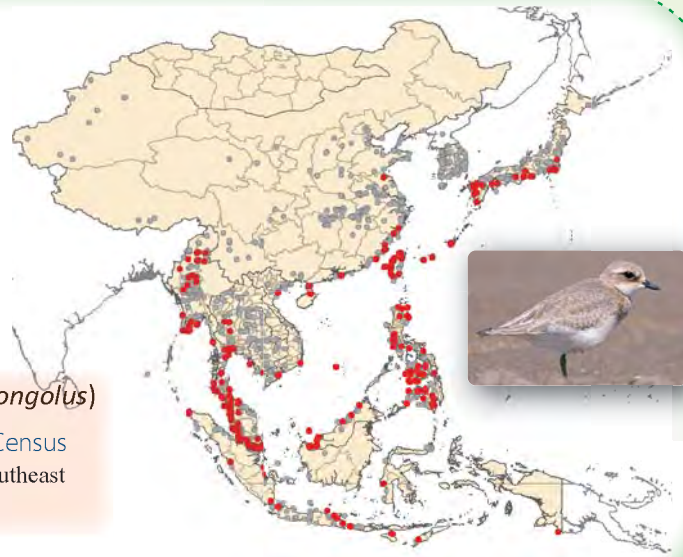
Three types of the databases are available on the ESABII Website. These databases will be developed further.

### Migrant Birds Database

This provides information on 75 major species of migrant birds in East and Southeast Asia in terms of ecology, designation as national protected species and protection status, as well as the results of the Asian Waterbird Census, which compiled information on the distribution of the migrant birds.

The page on the Mongolian Plover (*Charadrius mongolus*)

- Distribution information from the Asian Waterbird Census  
Monitoring points for the Mongolian Plover in East and Southeast Asia are plotted.



### Threatened Mammal Species Database

Of the mammals in East and Southeast Asia, 96 endangered species have been selected for the compilation of information, including their ecology, the status of designation as a national protected species and details of the protection activities, as well as distribution charts.

The page on the Bornean Orangutan (*Pongo pygmaeus*)

- Distribution information from the IUCN  
Distribution polygons of the Bornean Orangutan in the ESABII area are plotted together with the administrative boundaries.

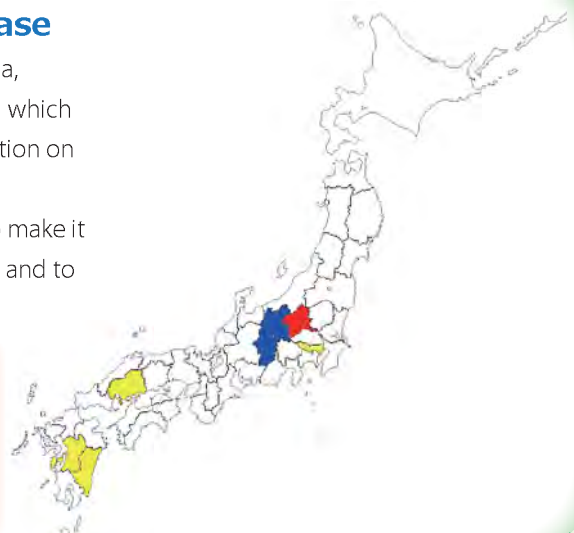


### Threatened Vascular Plant Species Database

Of the endangered vascular plant species in East and Southeast Asia, about 300 species mainly consisting of those of Japanese origin on which the data is more readily available were selected to provide information on their ecological situation and bibliographic information. In combination with the GBIF database, a function was provided to make it possible to superimpose distribution information on Google maps, and to present the distribution information by prefecture in Japan.

The page on *Asplenium castaneoviride*

- Distribution information by prefecture in Japan  
The situation at the prefectural level is presented: the blue area represents recorded presence; the yellow area represents unclear (extant as indicated by document(s)); and the red area represents extinct.





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