

**Workshop on Scientific Collections, Material Transfer and  
Collecting Regulations**

**8–9 March 2010**

**National Museum of Nature and Science**

**Tokyo**

## **Workshop Program**

**Day 1: 8 March**

**09:30-10:00 Registration with Coffee & Tea Service**

**10:00-10:20 Keiichi Matsuura---Opening Remarks for Workshop**

**Session 1: Collections and Museums**

**10:20-10:50 Domingo A. Madulid---Collection of Biological Specimens in the Philippines by the National Museum, and Regulations Governing Biological Collection**

**10:50-11:20 Peter K. Ng---The Ownership of Biodiversity and Challenges for Asian Museum Managers**

**11:20-11:40 Coffee Break**

**11:40-12:10 Somran Suddee---The Forest Herbarium (BKF) a Summary of Its Operations and Services**

**12:10-12:40 Wannakiat Thubthimsang---The PMBC Reference Collection: Collection Management and Database**

**12:40-13:40 Lunch**

**Session 2: Databases of Collections**

**13:40-14:10 Kwang-Tsao Shao---Digitizing and Opening Collections to the Public Can Promote Specimen Transfer and Research Collaboration – Taiwan's Experience**

**14:10-14:40 Suchada Chayamporn---Biodiversity Database and Information Development in Thailand**

**14:40-15:10 Ching-I Peng---Introduction to the Flora, Herbarium Collections and Their Digitization in Taiwan**

**15:10-15:40 Coffee Break**

**Session 3: Collections and Regulations**

**15:40-16:10 Somchai Bussarawit---Scientific Collections, Material Transfer and Collecting Permissions in Thailand**

**16:10-16:40 Bui Dinh Chung---Status of Marine Biodiversity Specimens of Vietnamese Seawaters**

**16:40-17:10 Tay-Cheng Liou---The Application Process of Specimens Collecting in Taiwan.**

**17:10-17:40 Plenary Discussion**

**18:00 Welcome Party at Sunpark Hotel**

**Day 2: 9 March**

**Session 3 (continued): Collections and Regulations**

**09:30-10:00 Pham Van Luc---Regulations and Conventions Related to Collecting and Transferring Permissions for Biological Specimens in Vietnam**

**10:00-10:30 A.G. Mazlan, A. Latiff and A. Aziz---Regulation and Policy for the Conduct of Research and Specimen Exchanges in Peninsular Malaysia**

**10:30-10:50 Coffee break**

**Session 3 (continued): Collections and Regulations**

**10:50-11:20 Vu Van Lien---Terrestrial Biodiversity of Vietnam: Specimen Collection and Related Issues**

**11:20-11:50 Abdul Latiff Mohamad---Collection, Material Transfer of Terrestrial Biodiversity and Some Related Issues on Biodiversity in Malaysia**

**11:50-12:20 Siti Nuramaliati Prijono---Indonesian Government Policies and Regulation Regarding Collecting Biological Specimen and Material Transfer for Research**

**12:20-13:30 Lunch**

**Session 3 (continued): Collections and Regulations**

**13:30-14:00 Edwyn B. Alesna---Scientific Collections of Aquatic Wildlife: Philippine Regulatory Requirement**

**14:00-14:30 Suharsono---Indonesian Material Transfer Agreement of Marine Biota**

**15:00-15:30 Aziz Arshad, Mazlan Abd Ghafar and Abdul Latiff Mohamad---Legislative Procedures on the Exchange and Sharing of East Malaysian Borneo Diversified Faunal Resources**

**15:30-16:00 Plenary Discussion**

**16:30-16:40 Closing Remarks**

# **Collection of Biological Specimens in the Philippines by the National Museum, and Regulations Governing Biological Collection**

**Domingo A. Madulid**

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The Philippine National Museum is a government agency created by law to undertake collection, survey and research on Philippine flora and fauna and to curate and maintain its systematic collections for scientific study and education. It is the only government research institution that has the largest systematic and biological resources for taxonomic study and backed up by 8 full-time researchers and 5 technical and support staff specifically trained for this job.

We collect specimens throughout the country and exchange duplicate specimens from Southeast Asia, Japan, Europe and the United States. Our collecting activity went smoothly and without any problem through the years resulting in the rapid increase of the botanical and zoological holdings of the institution, discovery of new species (and even genera) of plants and animals, numerous scientific publications in taxonomy, systematics, floristic and biodiversity studies, etc. and increase collaboration between local and international scientists who visited the Philippines.

However, the activity of the National Museum was affected by the passage of the Philippine Wildlife Act and the NIPAS Act which restricted the collection of biological specimens in the country for biodiversity conservation and habitat protection. These recent laws prohibit collection of biological specimens in the country without securing a permit from the DENR, DA or Palawan Council for Sustainable Development or the PAMB. The National Museum, despite its official mandate to collect specimens under the National Museum Act of 1998 is subjected to strict regulations by these bodies. It is the experience of many scientists and researchers not only from the National Museum but from other academic and research institutions that they are, in some cases, subjected to red tape and undue delay in securing collecting and export permits from the authorities concerned. As a consequence, the collection of biological specimens by the National Museum has significantly dropped and in many cases opportunities were lost to catalogue and identify important biological specimens especially the rare and threatened species remaining in the wild. Since the Philippines is one of the hottest of the hotspots for threatened species in the world, the urgency of collecting these specimens for conservation should be convincing reasons for scientists and researchers to be given considerations in the speedy processing of permits.

It is important and necessary that the problems pertaining to collection of biological specimens in the Philippines and export of specimens for scientific study is addressed and discussed by scientists, government administrators and policy makers and all stakeholders. This forum being organized through the auspices of the National Museum of Nature and Science in Tokyo is an opportune time for scientists, government officials and policy makers in Southeast Asia to discuss this common but pressing problem and in the end propose strategies and action plans on how we can move as a body to solve this problem.

# **The Ownership of Biodiversity and Challenges for Asian Museum Managers**

**Peter K. L. Ng**

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The ownership of biodiversity resources and information has been a tricky global issue since the agreements at the Rio Convention some 20 years ago. Instead of increasing the information stream about biodiversity, many genuine systematic researchers have in fact been hampered by the many rules and laws drawn up by a host of countries to “preserve and conserve their national biodiversity resources”. This includes requirements for intellectual property protection, potential bio-rights issues as well as a host of other economic and commercial aspects. While many of the governmental concerns are genuine, and if not addressed, national economic rights may well be stolen; many biodiversity managers are still unable to understand the nature of modern systematic science; and do not realise that taxonomic, ecological and even conservation studies do not in fact infringe on national sovereign rights. The need by scientists to publish and place their datasets and ideas on the public domain, the requirement to debate and discuss issues openly, the necessity to test hypotheses and classifications across man-made geopolitical boundaries, as well as allow open access to workers from across the world; is unfortunately, not well understood by economists, lawyers or even scientists who have to deal with these management issues. Various case studies will be discussed from the speaker’s experience, both positive and negative, in the two decades, from across the Indo-West Pacific and South America. Measures on how field and museum scientists can cope and overcome these challenging problems are also discussed.

## **The Forest Herbarium (BKF) a Summary of Its Operations and Services**

**Somran Suddee**

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The Forest Herbarium (BKF) is under the auspices of the Department of National Parks, Wildlife and Plant Conservation (DNP). BKF is Thailand's biggest herbarium and a centre of scientific excellence in taxonomic and biodiversity research. BKF contains a collection of over 200,000 preserved specimens, mainly of flowering plants and ferns collected within Thailand. BKF undertakes research on plant and fungal taxonomy, forest ecology, ethnobotany and conservation biology. We conduct botanical explorations, collect plant specimens and undertake plant taxonomic research for the "Flora of Thailand Project", in collaboration with Japanese, Danish, Dutch and British botanical institutions. The specimens collected are also distributed and loaned to collaborating institutions. We establish contacts and make the collections available for scientists dealing with conservation and protected area management, silviculturists and ecologists, and facilitate their research activities within Thailand.

The overseas organizations who would like to conduct research in National Parks and Wildlife Sanctuaries in Thailand can ask for an [application form](#) together with the [regulations](#) from the National Research Council of Thailand (NRCT) or download the form from the web site <http://www.nrct-foreignresearcher.org/>. The application has to be submitted not less than 90 days prior to your anticipated date of arrival. NRCT will contact the relevant Thai institutions and arrange their cooperation. A letter of permission will be provided for you to apply for your visa.

# **The PMBC Reference Collection: Collection Management and Database**

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The Phuket Marine Biological Center (PMBC) is the research institute which is under the Department of Marine and Coastal Resources, Ministry of Natural Resources and Environment, Thailand. The responsibility of PMBC has to conduct the researches and monitoring survey on marine resources and environment status including marine ecosystem and their diversity. All of the data and information will be analyzed and disseminated to the communities, local government and public for their management, rehabilitative programs and knowledge.

The PMBC was declared operational in 1971 and officially opened on 11 May 1972. The Reference Collection was included in the PMBC activities from the beginning. The idea of the reference collection of the PMBC originated during the Fifth Thai-Danish Expedition, along the south west coast of Thailand in the Andaman Sea in 1966. PMBC Reference collection building was established in 1983, the year of the Rattanakosin Bicentennial and commemorative of the of the 15 years cooperation between the Thai and Danish Government in establishing the PMBC, with the financial support from the Government of Denmark.

PMBC Reference Collection is one of knowledge tools which is very important for scientists especially the taxonomist. 412 type materials and 24,963 specimens were recorded in collection excluding unsorted specimens. Scientists, students and visitor can access information through the internet or direct contact at Reference Collection. Specimens have been identified and recorded in the Reference Collection and update the information. Moreover, PMBC publication and also disseminated research agencies concerned and can be accessed through PMBC web-site. PMBC has provided the exhibition and training course on taxonomic research and reference collection management every year.

For collection process and material exchange there have been some constrained both of the agencies in Thailand and aboard. Many forms and process have to fill in for permissions especially specimens in the list of CITES.

## **Digitizing and Opening Collections to the Public Can Promote Specimen Transfer and Research Collaboration – Taiwan’s Experience**

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Since 2001, Taiwan’s National Digital Archives Program has helped most biological collections to digitize, integrate and open for public access (<http://culture.teldap.tw>). This work is very useful when borrowing or requesting specimens for taxonomical and evolutionary studies. Although the Taiwanese government has not yet approved the draft of the “Genetic Resources Law,” basically it will require foreigners to show documents that prove they are in collaboration with local biologists to collect in Taiwan and take specimens out of the country. As to borrow formalin-fixed specimens from a museum, it only needs the museum manager’s agreement. However, requesting an alcohol-fixed animal tissue sample is very difficult since it involves the issue of benefit-sharing for genetic resources as well as the high competitiveness in the field of molecular evolutionary study.

The cryobanking program for Taiwanese wildlife has been promoted by COA since 2003. Nearly 3,000 species and 10,000 tissue samples, together with their voucher specimens, have been accumulated so far. All the collection data, including the rules on how to request and exchange these tissue samples, have been put on the web for public access (<http://cryobank.sinica.edu.tw>). The difference from borrowing regular formalin specimens is that permissions from the original collectors (PIs) must be granted. Although somewhat inconvenient, this practice can help researchers to collect more tissue samples and increase the opportunities for research collaboration. In addition, providing a mailing list of local biodiversity experts is necessary for establishing collaborative channels. Taiwan’s TaiBNET website (<http://taibnet.sinica.edu.tw>) currently contains data on about 700 experts.



# **Biodiversity Database and Information Development in Thailand**

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In present days, biodiversity-related issues are considered significant as they are one of Thailand's national agendas. Thus, compilations, researches, studies, and policy recommendation proposals must be effective and consolidated. For these purposes, **BEDO - Biodiversity-based Economy Development Office (Public Organization)** sees the recognized needs to establish Thailand's biodiversity database and biodiversity information network, in order to enable sound coordination between public agencies and related private organizations in developing project initiatives, conservative activities, and promotion of sustainable and efficient national biodiversity resources usage. Consequently, these will lead to biodiversity-based knowledge development in the long run. Biodiversity-based knowledge discoveries in Thailand are dated back several hundreds years. However, the collections are dispersed in many places, kept by many organizations as well as individuals, which presents limitations and difficulties to the biodiversity database development. Therefore, there is an urgent need to develop the biodiversity information system, with an aim to orderly manage available biodiversity and traditional knowledge. Moreover, this will act as the central unit for Thailand's biodiversity networks and data sources, a vital tool to bring about widespread and sustainable biodiversity-based economy development in the near future. To maximize the utility of rich natural resources in Thailand's economy development, such basic information proves pivotal in planning and management of these resources, in the sense of conservation, protection and commercial usage. Although there are numerous observations and collections by agencies across the country, yet these databases only provide answers to the missions of the particular agencies. Furthermore, these sources are also disorganized; making such resources not being utilized to their potentials. Hence, the gathering of data from various agencies, which would be used to develop an inventory of biodiversity resources discovered in Thailand, is much necessary and important.

For these reasons, BEDO is responsible for implementing **National Biodiversity Database Network and System Development Project: Stage 1** or [www.ThaiBiodiversity.org](http://www.ThaiBiodiversity.org), which has the following objectives:

1. To develop collection system management and database network on biodiversity resources at the national level, acting as the center for information linkages between relevant agencies;
2. To be a public source of biodiversity information and references, accessible via the internet;
3. To provide useful information on biodiversity resources and value creation process to interested organizations.

In addition, BEDO is also carrying out **Resource Inventory Development Project**, with an aim to collect data on biodiversity from agencies across Thailand, and develop the inventory of biodiversity resources.

# **Introduction to the Flora, Herbarium Collections and Their Digitization in Taiwan**

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Taiwan is a continental island that straddles the Tropic of Cancer. Its subtropical location combined with a tall range of steep, rugged mountains (to nearly 4,000 m altitude) creates a wide array of environments. Ecological features range from tropical to alpine, which support a rich and diverse flora of over 4,000 species, about a quarter of which are endemic. These plants represent immense germplasm for forestry, agriculture, horticulture, pharmacological and biotechnological research. In addition, they have such interesting relationships to the plants of other parts of eastern Asia and the rest of the world that the investigation of their distribution patterns and the determination of their similarity to the plants of other areas represent an interesting problem for scientific investigations. It is estimated that ca. 900,000 specimens have been deposited in major herbaria in Taiwan. Sponsored by National Science Council, a National Digital Archives Program (NDAP) was officially launched in Taiwan in January 2002. The scope of the program effectively enhances the accumulation, dissemination, and application of knowledge in cultural and biological assets. To consolidate and build on the success achieved, NDAP Phase II was launched in 2007, which was subsequently combined with National E-Learning Program into “Taiwan eLearning & Digital Archives Program” (<http://teldap.tw/en/>). Its primary purpose is to foster indigenous values, demonstrate Taiwan’s cultural diversity, and showcase the linguistic, biological, and cultural uniqueness of Taiwan. Some major herbaria involved in the biodiversity heritage archives project include Academia Sinica, Taipei (HAST); National Taiwan University (TAI); Taiwan Forestry Research Institute (TAIF). In this paper I shall present a brief floristic account of Taiwan, status of plant specimen collections, loans/exchange and digital herbaria in major botanical institutions. International collaboration on biodiversity inventory is encouraged. Procedures in applying for biological specimens collecting permit in Taiwan shall be presented by our governmental conservation officer at this workshop.

## **Scientific Collections, Material Transfer and Collecting Permissions in Thailand**

**Somchai Bussarawit**

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Thailand Natural History Museum of National Science Museum, a state enterprise, under Ministry of Science and Technology has been opened since 2003. The Natural History Museum has one of the most comprehensive natural science collections and exhibitions. Permanent exhibition over 2,000 m<sup>2</sup> show biodiversity in Thailand as well as life origination and revolution with illustrations, models, and interactive exhibits that allow visitors to have first hand experiences in natural science. The Natural Science Research Division has executed a field survey and research on the diversity of amphibians, reptiles, ants, plants including marine and freshwater fauna in several wildlife National Parks in Thailand. The museum also preserves a large collection of specimens from nature and serves as the country's preserved of reference for taxonomy and biodiversity research.

The foreign researchers shall submit their research proposals to National Research Council of Thailand 3 months in advance for consideration, approval and permission. The regulations on the permission for foreign researchers to conduct research in Thailand have been formulated to achieve the following objectives: (1) Enhancing cooperation and collaboration between Thai and foreign researchers, and providing opportunities for the exchange of knowledge, technical expertise, and experience (2) Promoting research activities in Thailand so that the results can be used to further the country's development (3) Stabilizing the social and economic security of Thailand (4) Controlling and regulating the country's natural resources to ensure that Thailand receives their benefits.

Foreign researchers will be classified into one of the following four categories: Category one - foreign researchers who conduct research in Thailand under an aid program or a cooperative program with the Thai government. Category two - foreign researchers who conduct research in Thailand under a cooperative agreement between a division of the Thai government and a foreign organization. Letters of verification including a Memorandum of Understanding (MOU) signed by each organization are required. If a foreign researcher conducts research with a Thai governmental organization or governmental academic institute, a letter of recommendation from the organization is needed. Category three - foreign researchers who conduct research in Thailand to fulfill graduation requirements for a degree program at a foreign university Category four - foreign researchers whose qualifications differ from those specified in the above three categories.

Field collection in national parks and non-hunting areas should get permission from appropriated authorities eg. Department of National Parks, Wildlife and Plants Conservation. Material transfer of research specimens should get export permit document.

# **Status of Marine Biodiversity Specimens of Vietnamese Seawaters**

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Vietnamese seawaters have main characteristics such as the long coast line, different depths, and monsoon areas with northeast wind in winter. There are areas with different oceanographical regimes, influenced by local oceanographical conditions and main currents in the West Pacific, e.g. the Kuroshio from the Japanese Sea.

Marine environments of Vietnam are also enriched with various ecosystems of tropical coral reefs, estuary, mangrove, sea grass beds, and rocky shores. The fauna and flora in the sea waters of Vietnam are greatly diversified, having primarily tropical species but also a significant ratio of temperate species.

The Institute Oceanographique de l' Indochine established in the year 1923 in Nha Trang, operated the research vessel De Lanessan, 1500 CV, equipped with bottom trawl until World War II. Great collecting efforts of this institute in Nha Trang resulted in the biggest marine collection in the country. After the French War (1946 - 1954) two comprehensive expeditions Vietnam-China (1959 - 1961) and Vietnam-Soviet Union (1959 - 1961) collected great number of specimens of phytoplankton, zooplankton, benthos, and fishes. However, many parts of the collections of these expeditions have been deposited outside Vietnam.

The Marine Research Institute and the Research Institute of Marine Products in Haiphong were established in year 1961. They have continued doing research up to now. Although these institutes keep marine collections, the coverage of taxa and the number of specimens are not sufficient to understand marine biodiversity in Vietnam. In the last two decades a number of projects concerning marine biodiversity, the universities, institutions and NGO in Vietnam have tried to collect specimens but the collections have not yet been systematically organized.

## **The Application Process of Specimens Collecting in Taiwan.**

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In order to protect the biodiversity of Taiwan, specimen collecting was restricted by several regulations and collecting permit might be approved by different authority, or county and city governments. The application process of specimens collecting in Taiwan are quite complex. Before the collecting application was made, 3 key points should be concerned: Species, regions and collecting methods. Protected wildlife and Natural Commemoratives (plants) should not be utilized except approved by the authorities. Specimens collecting in natural reserves, national parks, wildlife refuges, nature reserves, forest ecosystem conservation areas and designated scenic areas are prohibited, except approved by the authorities. Hunting of wildlife shall not be undertaken by the following methods: dynamite, explosives, poisons, electricity, narcotics, traps, snares, except approved by the authorities.

In recent, no single authority can issue all kinds of collecting permit for researcher in Taiwan. Perhaps after two years, when the Minister of Environment is setting up, all the related authorities will belong to MOE, the single window solution could be setting up.

## **Regulations and Conventions Related to Collecting and Transferring Permissions for Biological Specimens in Vietnam**

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In order to protect wild plants and animals, especially endangered and rare species listed in CITES and IUCN, Vietnam has joined and signed international convention on biodiversity about collecting, transferring and trading wild plants and animals. Vietnam executes completely and strictly the convention of CITES and IUCN on export, import, re-export, protect, control, conserve and transfer wild plants and animals. Vietnam also has legislation on forest protection and development. The legislation defines that protection and development of forest are managed by Government; Ministry of Agriculture and Rural Development is directly responsible to the Government for national management of forest protection and development; and Provincial People Committee is responsible for state management of forest protection and development in the locality. It is surely that the forest is well protected and managed. Nowadays due to forest loss as well as over-collecting, many rare species become endangered. To protect those species well, Prime Minister of Vietnam has signed Decree 32 on management of precious, rare and endangered plants and animals. They are plant and animal species having special values of economics, sciences and environment, having small populations in the wild or being at risk of extinction, and being decided by Government. They are divided into 2 groups (I and II), of which plants and animals listed in group I are not allowed to collect for any reason; species listed in group II are allowed collected limitedly for study and relevant purposes. Other Decrees (Decree 23 and 99) on application of regulation on forest protection and development. Foreign scientists or institutes do research in protected areas of Vietnam must be accompanied with Vietnamese counterpart, and permission for collecting and transferring plants and animals must be authorized by Ministry of Agriculture and Rural Development. Collecting and transferring plants and animals in protected areas of Vietnam must be followed by Legislation and Decree 32.

## **Regulation and Policy for the Conduct of Research and Specimen Exchanges in Peninsular Malaysia**

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The diversity in flora and fauna has enabled Malaysia to earn a prestigious spot as one of the 12 mega biodiversity countries in the world. Whole over Malaysia was endowed with over 15,000 species of flowering plants, 1,500 species of terrestrial vertebrates and about 150,000 species of invertebrates recorded from terrestrial and freshwater and marine ecosystems. The critical factor that has contributed to this rich biological diversity is the government policy and ability to protect the natural living resources. Being a maritime country, it has endowed with 9,323 km coastline and 335,914 km<sup>2</sup> area of continental shelf. In exploring the marine biodiversity, more taxonomists are undoubtedly needed in order to make the unknown of the marine organisms to be become a known species. However, Malaysia faced a serious shortage in taxonomist. Therefore a kind of research collaboration with foreign experts is pertinent, so that Malaysia can gain excess to their biodiversity resources as well as developing local experts and capacity building. However, any scientific collaboration regarding with indigenous biodiversity will entail specimen's collection that needed to be transported or exchanged abroad. This paper aims to highlight the Federal Government of Malaysia policy and regulation for specimen exchange and conduct of research in Peninsular Malaysia.

## **Terrestrial Biodiversity of Vietnam: Specimen Collection and Related Issues**

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Vietnam, has a high variety of habitats, is one of the high biodiversity countries in the world, and has 128 protected areas with the forest covers about 33% of terrestrial land. Vietnam has 295 mammal species, 880 bird species, 483 reptile and amphibian species, more than 10500 vascular plant species and many thousand of invertebrates. Although there have been many researches of fauna and flora, biodiversity in many forested areas is still little known, especially in central Vietnam. Many new species to science and new records have been described and added annually. So far there are more than a million plant specimens, millions of invertebrate specimens and thousand mammal specimens collected and preserved in different places throughout of Vietnam. A number of specimens collected in 100 years ago, but many specimens were collected recently. However, care and preservation of specimens are not good due to hot and high humidity, lack of preservation equipment and specialists. Many specimens are broken and degraded which can not be used any more. The classification and identification of some groups of plants and animals are relatively well done but the other groups such as invertebrates still lacking of taxonomists. In order to meet the need of research and preservation of specimens as well as other purposes, Vietnam National Museum of Nature has been founded (in 2006). The new Museum of Nature is a good place to collect, preserve and exhibit specimens for scientific research, visitors, education and international cooperation. Scientists of the Museum have been working in cooperation with many institutions and museums of foreign countries and international organizations and obtain some good results. The museum would like to work in cooperation and learn experiences from institutions and museums in the world.



## **Collection, Material Transfer of Terrestrial Biodiversity and Some Related Issues on Biodiversity in Malaysia**

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Malaysia and South-east Asia is endowed with one of the richest biodiversity in the world which is represented by various ecosystems, species and the genetic diversity. Ecosystem diversity is represented by various terrestrial and aquatic ecosystems, including marine. In Malaysia species diversity is represented by about 15,000 species of plants whilst the diversity of animals is represented by more than 6000 species, excluding that of the insects, the largest and most diverse single group which is inadequately known. As the country is also pursuing industrialisation by the year 2020, conflicts are bound to occur between biodiversity conservation and socio-economic development, unless sustainable development is adopted. Today a total of 1.39 million ha (about 7.6%) of the forest of all types have been set aside for biodiversity conservation. However, a framework for managing biodiversity in protected areas, including National and State Parks is inadequate as strategic planning and management and monitoring programmes are in place. The country is yet to define priorities for conservation and sustainable use of biodiversity based on ecosystem, species and genetic diversity. Measures for sustainable use in traditional agriculture, forestry, fisheries are in place but those in biodiversity prospecting, eco-tourism and impacts of urbanisation on biodiversity are yet to be established. In the absence of concrete data of biodiversity loss in the country it is difficult to ascertain the list of endangered or otherwise threatened species as the various ecosystems are prone to changes. However, efforts to assess and monitor these have been initiated through the recently incepted Biodiversity Country Study and National Policy on Biodiversity. Many factors have contributed to biodiversity loss; among them is the rapid socio-economic development of the country that transformed vast forested lands via logging activities, land openings for agriculture and resettlement and subsequently creating new built-up areas such as urban and industrial areas which are relatively poor in biodiversity. These changing land-use patterns are affecting not only biodiversity but also the environment *per se*. Other factors such as over-harvesting and pollution have also contributed in small part. These activities had led to significant habitat loss, degradation and forest fragmentation. What is needed are frameworks and strategies for biodiversity conservation, socio-economic strategies for sustainable use and benefit sharing of biodiversity and also some legal measures for sustainable use and protection of biodiversity and assessment of land-use patterns. Issues cooperation and collaboration between Malaysia and Japan on specimen collections, transfer of materials, collection permits are discussed.

## **Indonesian Government Policies and Regulation Regarding Collecting Biological Specimen and Material Transfer for Research**

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Estimates of global species diversity have near 10 million, and only 1.4 million have actually been named. Indonesia is one of mega-biodiversity countries which is blessed with extremely rich biological resources with high biodiversity. A lot of new species are still being discovered in Indonesia. The inventorying of biodiversity is much more incomplete in Indonesia, therefore it has committed to developing inventories of its biodiversity under article 7 of the Convention on Biological Diversity. However due to lack of available taxonomic expertise, Indonesia develop international cooperation for taxonomic research to get more complete of its species.

According to Government Decree No.: 41/2006, every foreign university, research institute, enterprise, and individual are welcome to conduct research in Indonesia. Foreign researchers who will conduct research in Indonesia have to involve scientist as local counterpart from local university, research institute or Non government Organization (NGO) who has competency in the research topic. Regarding the decree of the Ministry of Forestry No. 447/Kpts-11/2003 collecting of wild plant and animal specimens in Indonesia can only be done under a license given out by Management Authority (Directorate General Forest Protection and Nature Conservation/PHKA) and a recommendation from Scientific Authority (The Indonesian Institute of Sciences/LIPI). Daily duties of LIPI in terms of LIPI's as a Scientific Authority is carried out by the Research Center for Biology (RCB). Sending or transporting biological specimens from one location to another within Indonesia must be covered by legal documents (Article 42, Chapter X of the Regulations of the Government of the Republic of Indonesia Number 8, 1999) handed out by the regional offices for the Natural Resources Conservation Office (BKSDA) at the provincial level.

RCB is the institutions which are the national reference points for the science of taxonomy and related biodiversity studies. It has herbarium, museum zoology, museum ethnobotany and culture collection. One of missions of RCB is strengthening collaboration and improving among stakeholders concerned with issues of biodiversity conservation, ecosystem and environment. To increase the efforts of international cooperation for biodiversity research and in order to enable researchers to obtain information on what regulation are in force, therefore the policy and regulation regarding collecting biological specimens and material transfer for research will be informed.

## **Scientific Collections of Aquatic Wildlife: Philippine Regulatory Requirement**

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Prior to 2004, collections of aquatic specimens for academic research and scientific purposes were treated as ordinary collections of aquatic species, or could be classified as ordinary fishing.

However, the passage of Republic Act No. 9147, entitled “The Wildlife Resources Conservation and Protection Act”, and its implementing rules and regulations (Joint DENR-DA-PCSD Administrative Order No. 1, series of 2004), provides specific guidelines for the regulation of collection of Philippine wildlife resources for academic research and scientific purposes. A novel provision of the Act is the establishment of a third authority, the Palawan Council for Sustainable Development (PCSD) for the management and conservation of both terrestrial and aquatic wildlife in the Province of Palawan. Thus, collections of terrestrial and aquatic wildlife in Palawan, for whatever purpose, require the prior granting of appropriate permits from the PCSD. Prior to this Act, the management and conservation of wildlife resources in the country is entrusted to the Protected Areas and Wildlife Bureau of the Department of Environment and Natural Resources for terrestrial species, and the Bureau of Fisheries and Aquatic Resources for aquatic species.

As the Act, and its implementing rules and regulations, apply to both terrestrial and aquatic resources, the Bureau of Fisheries and Aquatic Resources prepared a Fisheries Administrative Order (FAO) specific for collections of aquatic specimens.

Some of the features of the Act include:

1. Requirement of a Memorandum of Agreement (MoA) between the collector and concerned implementing agency;
2. Requirement of the Free and Prior Informed Consent/Certificate (PIC) of Indigenous People (IPs) or prior clearance of the concerned local government units/Protected Area Management Board (PAMB)/individuals or associations with valid tenurial or other private rights to municipal waters, and other relevant agencies or institutions where the collection shall be made
3. Requirement for a Gratuitous Permit (GP) to collect the specimens
4. Classification of collectors and collections

Collection of wildlife resources for research, with commercial intent, is treated separately under Joint DENR-DA-PCSD-NCIP Administrative Order No. 1, series of 2005 (Guidelines for Bioprospecting Activities in the Philippines).

## **Indonesian Material Transfer Agreement of Marine Biota**

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Indonesia is the largest archipelagic country in the world and consists of 18.110 islands with a coastline of 108.920 km long. The formation of Indonesia Island was closely related to the ancient geological process and resulting to very complex and unique ecosystems variation and habitats which make it possible for fauna to adapt themselves and to undergo maximal evolution, resulting in the most highly diversified marine biodiversity. Detailed knowledge and understanding on marine biodiversity, and species richness are not yet known. In order to protect our marine resources, the ownership marine species and the fair and equitable sharing of the benefits arising out of their used, the government of Indonesia release a regulation for transferring biota into or out from Indonesia. The regulation is namely material transfer agreement. The basic law of this regulations is law No 5 of 1990 concerning conservation of living resources and its ecosystem, United nations convention on biological diversity, the ministry health regulation No 732 of 2008 on a guidance of sending the specimens for research and development of health. The complete of of material transfer agreement consist of definition of materials, collection of materials, ownership of materials, use of material, research proposal, intellectual property right, new discovery, publication, confidentiality, disclaimer of warranty, indemnity, termination, arbitration, regulation and rules and Entry into force and duration. The material transfer agreement can also be simplified depend on the research proposal, type of materials and the agreement of both parties. The detail of materials transfer agreement will be presented.

## **Legislative Procedures on the Exchange and Sharing of East Malaysian Borneo Diversified Faunal Resources**

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The biodiversity conservation in the ASEAN region has been the main agenda in environmental conservation in the last decade, merely relates to the hotspot biodiversity tag given to the rich and diverse faunal presence in the region. The island of Borneo where Malaysian Sabah and Sarawak states are located, is vast in tropical forest acreage and fringed with extensive mangroves, seagrass and coral reefs ecosystem. This diverse wealth could potentially have unique applications in healthcare, agriculture and industries and the two states have legislations with regards to the exploitation of the resources. In Malaysia, the respective state governments have jurisdiction over land, forests, fisheries, agriculture, water resources and local authority areas, and are empowered to gazette reserves, issue logging permits, collect royalties and premiums, decide on the use and allocation of the forest and its development. Sabah and Sarawak states are given autonomous governance due to some constitutional arrangement within the federation. Under the provisions of the Sarawak Biodiversity Centre (Amendment) Ordinance 2003, the Sarawak Biodiversity Council (SBC) is given the responsibility to regulate usage including research on biological resources and Sabah Biodiversity Enactment 2000 was enacted to provide a legal framework for the safeguarding of biodiversity and biological resources of the State. The paper will address the specific requirement of this legislation to the scientific community involved. The legislation and enforcement on the utilization of biological faunal resources of the two Malaysian states will be examined and discussed to include the specific requirement for the exchange of taxonomic specimens and deposition of biological specimens outside the states possibly through the implementation of national research projects and collaborative studies between Malaysia and other participating countries.