DIWPA News Letter

No.23

Office: Center for Ecological Research, Kyoto University, Otsu, Japan

DIWPA as an important partner for J-BON and AP-BON

Greetings to all DIWPA Members

From the Chair

This issue contains new sites of DIWPA, activities of organization and workshop reviews. I would like to thank all contributors who volunteered their time to submit articles on this issue. As confirmed in the previous DIWPA Steering Committee held in Nagoya University on July 20, 2009, the main functions of DIWPA are (1) promotion of research projects and science on biodiversity in the Western Pacific and Asia, (2) promotion of governmental and nongovernmental activities for the conservation and utilization of biodiversity, (3) facilitation of information sharing and research cooperation on biodiversity, and (4) capacity building of scientists in particular young scientists from developing countries. In addition to these, necessity of a forum was pointed out during the committee meeting. Yes, DIWPA News Letter should cover all aspects of DIWPA activities; it communicates facts and knowledge related to the study of biodiversities and I hole it also works as a forum for news and information exchange for members.

For the next issue of DIWPA News Letter, which will be published at the end of March 2012, please send your contributions to our DIWPA Office [diwpa@ecology.kyoto-u.ac.jp]. All articles, information and news items related to biodiversity or of interest to DIWPA members are most welcome and will be considered for publication.

For a free subscription to this newsletter, or to inform us about an address change, there is a membership renewal/subscription form at the end to this issue. Alternatively, News Letter is freely available for downloading from the DIWPA website at http://diwpa.ecology.kyoto-u.ac.jp/index.html.

From the Secretary General

I am very happy to inform you that we have two new DIWPA secretarial members. The first person is Prof. Atsushi Ishida, incoming professor of CER since April. His specialty is a tropical plant ecophysiology. He has kindly accepted to serve as the Vice-Secretary General and edited the present issue of DIWPA News Letter. The second one is Ms. Yuka (Yamanaka) Ikoma. She is a successor from Ms. Tomoe Nakamura, and Yuka has been doing very well for assistance of DIWPA. She had made big efforts to collect articles for this news letter as we wanted to publish the present issue in time for CBD-COP10.

In addition, we have accepted three new DIWPA sites and a new DIWPA member since last March.

New DIWPA Sites

-Yatsugatake and Kawakami Forest, Agricultural and Forestry Research Center, University of Tsukuba, Ibaragi, Japan

-Ryukoku Forest, Ryukoku University, Shiga, Japan

-Crocker Range Park, Sabah, Malaysia

New DIWPA member

-Sustainable Development Resource Center, Bangladesh

Thank you so much for your supports to our DIWPA activities.

New Sites

Biodiversity protection of Yatsugatake and Kawakami Forest, Agricultural and Forestry Research Center, University of Tsukuba

Tatsuyuki Seino

Agricultural and Forestry Research Center,
Yatsugateke University Forest
University of Tsukuba

Yatsugatake Forest (80ha, approximately 1400 m asl) and Kawakami Forest (170ha, ranging from 1350 to 1700 m asl), these forests of University of Tsukuba are located on Nobeyama Highland of Yatsugatake Mountains in Japan. The forests are characterized by naturally regenerated secondary forest dominated by oak (*Quercus crispula*) and Asian black birch (*Betula davurica*) with managed forests planted by Japanese larch (*Larix kaemoferi*), and intermediate moor dominated by Japanese alder (*Alnus japonica*) and Japanese flowering crab (*Malus sieboldii*). Land reclamation for farming and forestry were undertaken around the areas of the Yatsugatake and Kawakami Forests since middle of 20 century, hence the forests are strongly affected by human activities. In spite of human impacts on forest utilization, the rare species under the conservational protection such as Primrose (*Primula sieboldii*) and Japanese dormice (*Glirus japonicus*) are observed in the Yatsugatake and Kawakami forest. Such a good background for natural sciences, inventory information such as fauna and flora is needed to understand biodiversity of the forests. Hence, we are keep on observing floristic composition, regeneration and dynamics of the forests and population ecology of Japanese dormice as the Long-Term Ecological Research (LTER). Meteorological measurements are also taknen. Yatsugatake and Kawakami Forests are registered at the associate-site of JaLTER (Japan Long-Term Ecological Research) as “Nobeyama”. Our activities are expected to contribute widely to LTER and biodiveristy research.

A scene of observation of Japanese dormice

Overview of Yatsugatake Forest from Kawakami Forest. Yatsugatake Forest is surrounding by farmland on a mountainside

"Ryukoku Forest" - a university-owned satoyama

Tomiyasu Miyaura

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Ryukoku University

Figure 1 shows an aerial view of Seta hill, south of Lake Biwa in Japan. Seta hill was once covered by a large area of forest formerly used as satoyama. Human population growth in this area is now the highest in Japan, because the location provides easy access to Kyoto and Osaka.

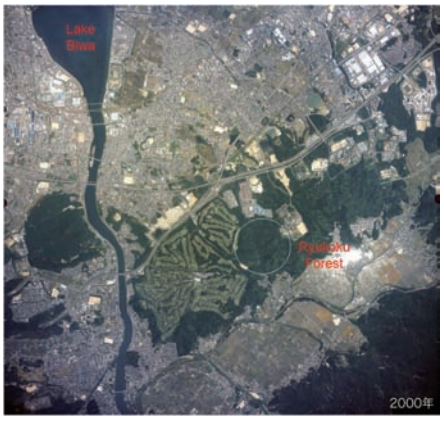

Figure 1. An aerial photograph of Seta hill, south of Lake Biwa, Japan in 2000

New Sites

Former satoyama areas are losing ground to golf courses, residential housing, school buildings, factories, and so on. Traditional satoyma forests have no economic value in the modern world, because there is no requirement for the firewood and fallen leaves they provide.

The Seta campus of Ryukoku University is located on the central of Seta hill. Ryukoku University owns the encircled forest in Fig. 1, which is known as "Ryukoku Forest". The area is about 38 ha, which is not large but, nevertheless, very important for maintaining local biodiversity.

Important plant species such as *Cephalanthera falcata* and *Lilium japonicum* are found in Ryukoku Forest. These two species are typical of satoyama forests, but are rarely encountered nowadays. *Cephalanthera falcata* is now categorized as a Threatened Species in the Japanese RED data book. Indeed, there are only few individuals in the Ryukoku Forest.

Ryukoku University intended to clear Ryukoku Forest for new playing fields and other facilities when it bought the land in 1994. However, in the environmental survey prior to construction, a goshawk (Accipiter gentilis; "otaka" in Japanese) was found nesting on the property and hunting in nearby crop fields. The presence of otaka is indicative of the rich biodiversity maintained within the satoyama landscape. Ryukoku University changed its plans and decided to use the forest for environmental education and research on satoyama biodiversity.

We are now conducting an integrated study of the satoyama landscape (the Satoyama Open Research Center from 2004 to 2008, and the Satoyama Research Center from 2009 to 2011). Ecologist, sociologists, and many scientists from various disciplines are engaged in these research projects; they examine mechanisms in the maintenance of biodiversity, the history of the interaction between community life and the satoyama ecosystem, and the importance of satoyama in modern society. Based on these studies, we aim to use satoyama as a model system to develop an integrated program for preserving biodiversity and conducting environmental education in the field. This plan involves partnerships among local residents, local governments and researchers. Many lay citizens participate in the conservation activities in Ryukoku Forest, along with students of Ryukoku University. Pupils of elementary and junior high schools are also involved in taking care of the satoyama.

Permanent Plots in Crocker Range Park in Sabah, Malaysia

Akira Takahashi

Institute of Natural and Environmental Sciences University of Hyogo / Museum of Nature and Human Activities, Hyogo

Crocker Range is located on the northwest coast of Borneo, Sabah, Malaysia. The mountain area has been designated as a forest reserve since 1968 and was re-named Crocker Range Park (CRP) in 1996 as a national park, managed by Sabah Parks, a state agency. The mountain chain of CRP ranges northeast to southwest, and the park is about 75 km long and 15 km wide. The elevation widely ranges from the lowland of 100 m in the south to the mountain area of ca.2000 m in the northeast. The northeast part is continued from Mt. Kinabalu (4101 m). The west side of the range has a great amount of rain due to the wet wind from the South China Sea and the east side of the range is relatively dried. The forests of different location in CRP show the different types of flora reflecting their topographical and climatic features.

The permanent plots in CRP were established in 2005 and 2006 during BBEC I (Bornean Biodiversity & Ecosystems Conservation Programme, Phase I) in cooperation with JICA, in which project I was involved as a specialist of conservation biology and stayed at Universiti Malaysia Sabah (UMS). The purpose of the permanent plots is to be a research field on the biodiversity study for the researchers and students of UMS, and to use data obtained from a monitoring of the forest in the park management for Sabah Parks.

Since there are steep slopes in Crocker Range, it was difficult to make a flat and wide plot. So we were going to make several plots of the small sizes in the different locations of CRP. Finally six plots were set up at Inobong, Mt. Alab, Mahua, Keningau, Ulu Senagang and Ulu Kimanis. Each plot is of size of 50 x 50 m. The elevation of each plot site is different, namely Inobong and Ulu Senagang are at 600 m in altitude, Mahua, Keningau, and Ulu Kimanis are 1000 m, Mt. Alab is 1800 m, respectively.

The forest of Mt. Alab is the mountain forest, where trees belonging to the genera such as *Tristania, Lithcarpus, Leptospermum, Phyllocladus* are densely growing. Shrubs of *Rhododendron* are blooming with

orange or white flowers and many epiphytes such as the orchids and ferns are seen on the mossy tree trunks. The forests of the other sites are the mixed dipterocarp forests consist commonly of trees belonging to the genera, such as *Shorea, Canarium, Aglaia, Litsea, Eugenia*. However, the other component species are more or less different in each site. We can see the trees more than 30 cm in DBH belonging to the genera *Duabanga, Aphanamixis, Chionanthus, Pterospermum* in Mahua, and those of *Schima, Magnolia, Lithocarpus* in Keningau. In Inobong, there are many trees of several species belonging to the genera *Macaranga, Mallotus*, and *Ficus*, and those trees have relatively similar sizes with 10 cm or more in DBH. Those trees are probably growing as pioneers soon after felling trees in the forest, recently. Inobong site is closed to the residential area of the local people, who used to cut and use some useful trees in the forest.

***Rhododendron stenophyllum* Hook. f. ex Stapf subsp. *angustifolium* (J.J. Sm.) Argent, A. Lamb & Phillipps**

Sabah Parks plans to progress a long-term study on the conservation of biodiversity of CRP with other organizations such as UMS in Sabah and also those in the foreign countries. It must be continue to conduct monitoring of the forest and investigate the flora in CRP.

Collecting plant specimens for identification

Activities

SDRC facilitates participatory research and conservation of biodiversity in Bangladesh

Tapas Ranjan Chakrabort
Sustainable Development Resource Center (SDRC)

Sustainable Development Resource Centre (SDRC) has been working for biodiversity conservation since 2002. The first program was awareness campaign at Rarekhal, the birth place of Sir J. C. Bose who discovered plants are living things. SDRC has been working on biodiversity conservation awareness and community based participatory researches on homestead biodiversity and forest biodiversity specifically. The vulnerabilities of biodiversity for climate change and the conservation priorities have been published by SDRC in a book and 8 leaflets on 2007. Population and distribution of Asian Elephants in Chittagong forest division and the waders of Haor basin were studied by SDRC. Currently SDRC is working to motivate the school students in conserving the residential and migratory birds. BanglaBioNet, a network of secondary and tertiary students on biodiversity conservation and knowledge sharing is running with the support of SDRC. The network organizes discussion meetings and celebrates biodiversity related days and events. SDRC have studied climate change impact on biological diversity using community-based participatory action tools in different areas of Bangladesh. The communities have identified the impact and develop action plan for different ecosystems; this program is a regular event of SDRC and the community is updating the information regularly. Campaign for conserving the small mammals specifically insectivorous was conducted by SDRC in the year 2008. SDRC has consulted with communities to draw a solution on man-tiger conflict in the periphery of Sundarbans. In the next winter, SDRC will run a program of awareness campaign on conserving the habitat of migratory birds in the coast and large water bodies. Through the "know risk, no risk" campaigning SDRC aims to ensure post disaster habitat development support to conserve the village grove for the wildlife.

Activities

WorldFish Center and its research on diversity issues

Yumiko Kura
The WorldFish Center

The WorldFish Center is an international organization, with a mission to reduce poverty and hunger by improving fisheries and aquaculture, and one of 15 centers supported by the Consultative Group on International Agricultural Research (CGIAR). We carry out research-for-development in partnership with a wide range of government and non-governmental agencies in developing countries. We have 250 staff working in more than 25 countries, and regional or country offices in Bangladesh, Cambodia, Egypt, Malawi, Malaysia (headquarters), Philippines, Solomon Islands, and Zambia.

Because our mission is predicated on maintaining ecosystem health and natural resource base through sustainable use and conservation of biodiversity, many of our projects contribute to achieving the goals of the Convention on Biological Diversity.

At the global level, WorldFish designs and manages global information systems on aquatic resources that are used by scientists, resource managers, policy-makers, students around the world. FishBase, a free access, online information system about the world's known fish species, includes standardized biological and ecological data on 31,527 marine and freshwater species and receives 500,000 visits per month. (http://www.fishbase.org/) SeaLifeBase, a complementary online system about all other aquatic organisms, is also regularly being updated with more information (http://www.sealifebase.org/) ReefBase is an online coral reef information system and gathers available knowledge about reefs into one information repository, currently holding more than 27,000 references, 6900 downloadable publications, 4600 images, and contact details of nearly 5000 coral reef experts (http://www.reefbase.org/)

WorldFish has conducted a number of thematic, region or country specific research in global centers of biodiversity.

The Coral Triangle Atlas aims to improve the efficiency of management and conservation planning in the Coral Triangle (CT) region, a center of marine biodiversity spanning from the Philippines and Indonesia to the Solomon Islands, by providing access to spatial information, encouraging data sharing, reducing duplicate data collection, and making the best data easily available. The CT Atlas is particularly valuable for designing and planning of marine protected areas (MPAs) in the region.

Sustainable fisheries in a Central African biodiversity hotspot. The Central African rainforest and river systems are a center of biodiversity for freshwater fishes. These areas are also important for subsistence fisheries upon which millions of people depend for their livelihoods and food security. This project examines how fish populations interact with fishing pressure and rural development. Targeting several national parks, protected landscapes, and river systems in Republic of Congo, Central African Republic, and Cameroon, we aim to foster sustainable biodiversity conservation and fisheries management as well as strengthen local institutional capabilities.

Scenario-Based Assessment of the Potential Effects of Alternative Dam Construction Schemes on Freshwater Fish Diversity in the Lower Mekong Basin. The Mekong River system is home to one of the richest freshwater fish species diversity in the world. Most fish species are migratory, often travelling hundreds of kilometers. This basin is also renowned for one of the most productive inland fisheries in the world, producing 2.6 million tonnes each year, equivalent to 60% of the total fish production in Japan. Hydropower dam development is progressing rapidly in the region and will undoubtedly obstruct fish migrations and drastically reduce fish productivity.

WorldFish, in collaboration with the National Institute of Environmental Studies in Japan, Ubon Ratchathani University in Thailand, the Inland Fisheries Research and Development Institute in Cambodia, is conducting a scenario-based analysis of potential dam impact on fish migrations. The project will predict potential risks of planned dams on selected migratory fish species in the Mekong River, so that alternative areas for dam development can be proposed to minimize the impacts.

Srepok river from air

REPORT *by Shin-ichi Nakano*

10-12 March 2010

The 4th GEOSS Asia-Pacific Symposium

The 4th GEOSS Asia-Pacific Symposium was held in Bali, Indonesia from 10 to 12 March 2010, and the 2nd AP-BON Workshop was held on 11 March. In this session, we discussed the following topics: (1) the short-term and long-term goals of AP-BON, (2) recommendations and contributions with respect to CBD-COP10, and (3) implementation of the new project.

There were fourty participants from seven countries including representatives of key partners (ACB, LIPI, FRIM, CIFOR, DIWPA and ITER-EAP). We discussed the following four items and came to an agreement: (1) to share the two basic goals of i) monitoring biodiversity changes and ii) developing sustainable management in the Asia-Pacific region; (2) to organize eight working groups of AP-BON that correspond exactly to the eight GEO BON working groups that were organized at a GEO BON meeting last February; (3) to publish an AP-BON book regarding various on-going biodiversity observation activities in the Asia-Pacific region, as an early product toward the Nagoya conference; and (4) to document an implementation plan for activities from 2010 to 2015. AP-BON working groups on genetics/phylogenetics, terrestrial species monitoring, terrestrial ecosystem changes, freshwater ecosystem changes and marine ecosystem changes have been preparing drafts of implementation plans, and these were distributed to the session participants for further discussions. Through the discussions, we have confirmed the significance of developing biodiversity databases with the baseline data which are also useful for assessments of biodiversity changes. In addition, we agreed to encourage all together to enlarge national BONS such as Indonesia and Korea, in tight relationship with GEO BON. For more detailed information on the AP-BON W/S and its summary report are available on the following website.

http://www.lapanrs.com/geoss_ap_4th/

In the mid-symposium excursion, we visited Tanah Lot Temple. It was so fantastic!

At the banquet, we enjoyed the culture and art of Bali very much.

21-22 March 2010

3rd AP-BON W/S at CBD-COP10 presymposium

CBD-COP10 presymposium was held in Nagoya from 21 to 22 March 2010, followed by AP-BON W/S on 23 March 2010 in Nagoya. The main topic of discussions on 21 March was to establish Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). We already have DIVERSITAS as an international programme for biodiversity sciences, and to establish an organization which implements the fruits derived from DIVERSITAS was a matter of urgency. Therefore, the establishment of the organization with the function similar to Iintergovernmental Panel on Climate Change (IPCC) has been examined. At the meeting, Mr. Tajima, Senior Vice-Minister of the Environment, Japan, Prof. Mooney, DIVERSITAS Science Committee Chair, Prof. Cooper, CBD Senior Programme Officer, and other important biodiversity researchers discussed the gap in thoughts between scientists and policy-makers, successful cases where scientific ways were efficient, guarantee of political necessity and reliable science, importance of regional and bottom-up approach, and removal of duplicated organizations.

On March 22, we discussed the significance of interaction between CBD and IPCC, necessity of long-term vision (longer than 50 years), and the win-win relationship between developing and developed countries.

At AP-BON W/S on 23 March, we had a discussion on draft for implementation plan of each working group; terrestrial (species, ecosystem and remote sensing), freshwater and marine. At the opening remarks, Dr. Gary Geller (NASA) explained the instructions for preparation of implementation plan. He talked about the importance of concepts, activities and deliverables, as well as the tight partnership among related organizations. He has also emphasized that the BON activities should be in good accordance with the concepts. Furthermore he mentioned the interactions among eight GEO-BON working groups. He was interested in the establishment of regional BONs under the supervision by GEO-BON, though they are not the children of GEO-BON, but the equal partners.
After the general business meeting, each working group had their own meeting. I served as the chair of freshwater monitoring group. In terms of international networking, our group was behind relative to terrestrial or marine monitoring groups. Then we had three foreign invited speakers and advisor with the financial support by the Ministry of Environment Japan: Dede

REPORT *by Shin-ichi Nakano*

Irving Hartoto (LIPI, Indonesia), Huanzhang Liu (Wuhan Institute of Hydrobiology, China), Yumiko Kura (WorldFish Center, Cambodia). The first half of our meeting was spent for the introduction of biodiversity monitoring in each attending country, and the latter was used for discussions to improve our draft of implementation plan. Our next challenges are to find financial support and appropriate labor to conduct the implementation plan, though our plan had been improved.
For more information, please visit the following URL:
http://sites.google.com/site/asiapacificbon/

24 March 2010

DIVERSITAS Scientific meeting

DIWPA, Chair Tsubaki and myself, attended DIVERSITAS Scientific Committee meeting held on 24 March at Nagoya University as observers. We were interested in operation of DIVERSITAS, though it is unusual for DIWPA members to attend DIVERSITAS meeting. At the meeting, there were Japanese and Taiwanese participants from Asian countries, and other participants from IGBP and ICSU. Participants gave presentations about their own project conducted in terrestrial or aquatic system. In addition, they discussed how to support IPBES as well as how to collaborate with social scientists.

5-6 June 2010

2nd J-BON W/S

We had 2nd J-BON W/S on 5 and 6 June 2010 in Komaba Campus, University of Tokyo. In the W/S, main topics for discussion were (1) preparation of the document which explains urgent necessity and implementation plan of J-BON, (2) launching the portal site of J-BON, and (3) establishment of J-BON management. A draft implementation plan of J-BON prepared by Prof. Yahara was distributed to the participants as discussion materials. The revised version of the plan is available at the following website.
http://www.j-bon.org/

Prof. Yahara commissioned the chairs of each working group such as terrestrial (species, ecosystem and remote sensing), marine and freshwater, to prepare the implementation plan by the end of August 2010. In the implementation plan, the concepts, activities and deliverables, all of which would be conducted not only in Japan but also in other Asian countries, will be included. So, it is likely that our DIWPA network will be of importance.

Coming Next Issue!

DIWPA has already identified as an important partner of J-BON, and AP-BON.

This is also the case for the relationship between DIWPA and APN (Asia-Pacific Network for Global Climage Change, http://www.apn-gcr.org/).

On September 9 2010, APN and DIWPA had a joint symposium in Kobe City where there are plenty of the people interested in biodiversity science.
http://www.apn-gcr.org/newAPN/indexe.htm

We will report the details of the symposium in the next DIWPA Newsletter.

Mail Us!

We welcome your articles, news or any information related to biodiversity.

We would also accept annoucements of the events or symposium.

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