



GCOEアジア保全生態学 九州大学・東京大学  
Education, Research & Conservation

## SYMPOSIUM REPORTS

### **Biodiversity in changing coastal waters of tropical and subtropical Asia**

Reihoku-Amakusa, Japan (30 Nov - 4 December 2012)



(Field workshop at the symposium in Amakusa)

The international symposium was a resounding success with well over 100 participants from Asia Pacific and beyond, nearly half of these coming from outside Japan. The symposium started with opening addresses by Professor T Yahara (Director of the GCOE Program – Kyushu University), Professor Y Shirayama (Director of JAMSTEC), Mr S Matsuno (Deputy Mayor of Reihoku Town) and Professor M Tokeshi (Director of AMBL and Symposium Chair), followed by varied and insightful presentations by delegates working on different systems.

The aim of the symposium was to have an opportunity for presenting and discussing current works on coastal ecosystems in the Asian Pacific region. This region has been known as the centre of marine biodiversity on Earth with extensive and complex coastal areas. However, the region has recently witnessed rapid environmental changes and notable environmental degradation with economic growth which make research on coastal biodiversity an urgent and important task from the viewpoint of both conservation and pure scientific interests. As an encouraging sign, research in the Asian Pacific region has also been rapidly expanding, as evidenced by many high quality studies presented in the symposium (52 oral and 39 poster presentations by leading scientists and young researchers). In the end, all the delegates have come to recognise the need for more research in this region.

In addition to symposium sessions, we had field workshops on the 3rd December, featuring various coastal environments of the Amakusa-Shimoshima

Island, including the rocky/boulder intertidal, estuaries and underwater reef habitats with corals. Participants fully enjoyed the day observing diverse habitats and organisms. Field collections were also conducted by SCUBA diving and dredge sampling using the research vessel 'Seriola' of the AMBL.

Another important aim of the symposium was to create an effective network of researchers in Asia. In this respect, the grand finale on the last day was a talk by Professor Tokeshi in a special session. He argued for the need to establish a new, Asia-based, scientific society and the delegates enthusiastically supported the proposal: the creation of the Society for Coastal Ecosystems Studies - Asia Pacific (SCESAP). The society will be formally launched in 2013 and open to all researchers working on coastal ecosystems of Asian Pacific.

This was the first attempt to hold a major international scientific conference in a remote corner of Amakusa. While it was a big challenge to organise such a sizable and diverse gathering, we at the AMBL had much-needed support from the GCOE programme and the S-9-5 project, especially for helping young scientists from Asia to attend this symposium. We believe that all delegates enjoyed not only the scientific content of the meeting but also other aspects including the cuisine, culture and the atmosphere of typical countryside of Japan. Last but not least, supporting organizations and the students and staff of the Amakusa Marine Biological Laboratory deserve a special expression of thanks, as they made valuable contributions in many different ways.

The scientific achievement of this symposium will be summarised in a special volume of the journal "Hydrobiologia", with the same title as the symposium itself ("Biodiversity in Changing Coastal Ecosystems of Tropical and Subtropical Asia"), to be published towards the end of 2013.

(S Arakaki, Kyushu Univ.)



## **International Workshop on Freshwater Biodiversity Conservation in Asia**

Ito, Japan (Nov 2012)



“International Workshop on Freshwater Biodiversity Conservation in Asia” has been held on 26-27th November 2012 at Kyushu University. About 30 researchers came from various countries (China, Thai, Cambodia, Vietnam, Malaysia, Indonesia, USA, Ireland, and Japan). Participants shared their knowledge and discussed problems in the conservation programs for the inland-water ecosystem and its habitat. We agreed to call attentions on the importance of conservation and to protect the ecosystem from overdevelopment, pollution, habitat loss, damming, and so on.

(Y Kano, Kyushu Univ.)

### **FIELD COURSE: Malaysia**

#### **Alien fishes in the Peninsular Malaysia**

As in Japan, several alien fishes inhabit in Peninsular Malaysia. Tilapias (*Oreochromis* spp.), guppies (*Poecilia* spp.) and plecocs (*Pterygoplichthys* spp.) are the major alien species in Malaysian rivers. The habitat of these fish is mainly extremely polluted in city areas. Further survey will be conducted on the effects and ecology of the alien fishes.

(Y Kano, Kyushu Univ.)



Red tilapia? (*Oreochromis niloticus* x *mossambicus*)



Guppy (*Poecilia reticulata*)



*Pterygoplichthys* sp. (hybrid?)

### **FIELD COURSE: Cambodia**

A team including four students visited to permanent sample plots (PSPs) at Koh Kong, Siem Reap, Kg Thom, Kg Chhnang from 3rd to 29th December, 2013. Our group identified the trees of PSPs at Koh Kong and Siem Reap and collected trait data (leaf thickness, leaf area, wood density) at PSPs of Kg Thom. We collected soil samples of PSPs in Kg Thom and Kg Chhnang to measure environmental gradients. Our group set 3 transect plots within PSPs at Siem Reap. In this visit, we collected total 721 specimens with approximately 500 species. The team included 10 staffs (Toyama H., Tagane S., Hosoishi S., Wachi N., Iwanaga F., Fuse K., Onoda Y., Tsujino R., Nagamasu H., Kajisa T.), 3 graduate students (Kanao T., Shinozuka K., Chiu C.), and 1 undergraduate student (Tagawa K.)

(T Kajisa, Kyushu Univ.)

### **OTHER RECENT ACTIVITIES**

#### **PUBLICATIONS (Journal Article)**

Featured articles from COE field courses

- **Kano Y, Miyazaki Y, Tomiyama Y, Mitsuyuki C, Nishida S & Rashid ZA** (2013) Linking Mesohabitat Selection and Ecological Traits of a Fish Assemblage in a Small Tropical Stream (Tinggi River, Pahang Basin) of the Malay Peninsula. *Zoological Science*.

Others

- **Kaifu K, Yokouchi K, Aoyama J, Tsukamoto K** (in press) Head shape polymorphism in Japanese eels *Anguilla japonica* in relation to somatic growth in the Kojima Bay-Asahi River system, Japan. *Journal of Fish Biology*.
- **Kaifu K, Miller MJ, Yada T, Aoyama J, Washitani I, Tsukamoto K** (2013) Growth differences of Japanese eels *Anguilla japonica* between fresh and brackish water habitats in relation to annual food consumption in the Kojima Bay-Asahi River system, Japan. *Ecology of Freshwater Fish*, 22, 127-136.
- **鈴木大**. (2012) クサガメ日本集団の起源. 亀楽 (4)1-7
- **Seto, M., N. Takamura, and Y. Iwasa**, 2013.

Individual and combined suppressive effects of submerged and floating-leaved macrophytes on algal blooms. *Journal of Theoretical Biology* 319: 122-133.

- Wakano, J., and **Y. Iwasa**. 2013. Evolutionary branching in a finite population: deterministic branching versus stochastic branching. *Genetics* 193: 229-241.
- Halley, J.M. and **Y. Iwasa**. 2012. Neutrality without incoherence: a response to Clark. *Trends in Ecology and Evolution* 27: 363.
- **Lee, J-H.** and **Y. Iwasa**. 2012. Optimal investment in enhancing social concern on biodiversity conservation: a dynamic approach. *Theoretical Population Biology* 82:177-186.
- Tanaka, C.M. and **Y. Iwasa**. 2012. Cultural evolution of a belief controlling human mate choice: dynamic modeling of the hinoeuma superstition in Japan. *Journal of Theoretical Biology*. 309:20-28.
- Takashina, N. A. Mougi, and **Y. Iwasa**, 2012. Paradox of marine protected area: suppression of fishery may cause species loss. *Population Ecology* 54: 475-485.
- Bessho, K. and **Y. Iwasa**. 2012. Variability in the evolutionarily stable seasonal timing of germination and maturation and the mode of competition. *Journal of Theoretical Biology* 304:66-80.
- Satake, A. and **Y. Iwasa**. 2012. A stochastic model of chromatin modification: cell population coding of winter memory in plants. *Journal of Theoretical Biology* 302:6-17.
- Tachiki, Y. and **Y. Iwasa**, 2012. Evolutionary jumping and breakthrough in the trees' masting evolution. *Theoretical Population Biology* 81:20-31.
- Hironaka, K., **Y. Iwasa**, and Y. Morishita. 2012. Multiple feedback loops achieve robust localization of wingless expression in *Drosophila notum* development. *Journal of Theoretical Biology* 292:18-29.
- **Itaka, S.**, Yoshida, S., Mizoue, N., Ota, T., Takashima, A., **Kajisa, T.** and Yasue, K.. (accepted) Estimation of growth rates based on tree-ring analysis of *Cryptomeria japonica* on Yakushima island, Japan. *Journal of Forest Planning*.
- **Mimura M** (in press) Genetic and phenotypic variation in *Lotus japonicas* (Regel) K. Larsen, a model legume species. *Canadian Journal of Plant Science*.

and Forest Products Research Institute, Japan. 151. ISBN 978-4-905304-15-9.

### **PAST SEMINARS & SYMPOSIUM**

- Biodiversity in changing coastal waters of tropical and subtropical Asia, Reihoku-Amakusa, Japan (30 Nov - 4 December 2012)
- International Workshop on Freshwater Biodiversity Conservation in Asia, Ito, Japan (Nov 2012)
- Global Legume Diversity Assessment (GLDA): Concept and Challenges, The Sixth International Legume Conference, Johannesburg, South Africa, January, 2013

### **UPCOMING EVENTS**

#### •Seminar & Symposium

- GCOE International Seminars  
25-26th January 2013  
Jacques van Alphen will give us two talks: "Larval parasitoids of *Drosophila* as a model system in evolutionary ecology: behaviour, life histories and niche differentiation" on 25<sup>th</sup> and "Sexual selection and speciation: Mechanisms in Lake Victoria cichlid fish" on 26<sup>th</sup>. Three GCOE-RA, T Kanao, T Mishima, T mastumoto, and K Shirai will also present their research on 25<sup>th</sup>.
- The 4th Joint GCOE Symposium for Asian Conservation Ecology will led by Kyushu University and University of Tokyo at Kyushu University on 9-10th February 2013.

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Edited by Makiko Mimura & Yuichi Kano

### **BOOKS**

- **Kajisa T.** 2012. Recipe - T11 Estimation of forest area change. 110-111, REDD-plus COOK BOOK – How to Measure and Monitor Forest Carbon. (Hirata Y, Takao G., Sato T., Toriyama J. (Eds.). Forestry