



The 4th International Symposium on Kuroshio Science

*Effects of Recent Societal Changes and Modifications
to the Natural Environment on the Marine and Land-
based Ecosystem in the Kuroshio Region.*

Symposium: 6-7 November 2010

Media Hall, Kochi University, Asakura, Kochi , Japan

Topics:

- ★ **Socio-Economic condition in Cagayan,
San Miguel Island, Taiwan**
- ★ **Marine Biology, Ecology, Bio-resources,
Fisheries in Sarawak, Taiwan, Kochi**
- ★ **Forests in Sarawak, Kochi**
- ★ **Concept for Nature Conservation**

Speakers from

Bicol University, Tabaco, the Philippines

The University of the Philippines

BFAR Region 2, Cagayan, Philippines

Partido State University

Sun Yat-sen University

Academia Sinica, Taipei

Universiti Malaysia Sarawak

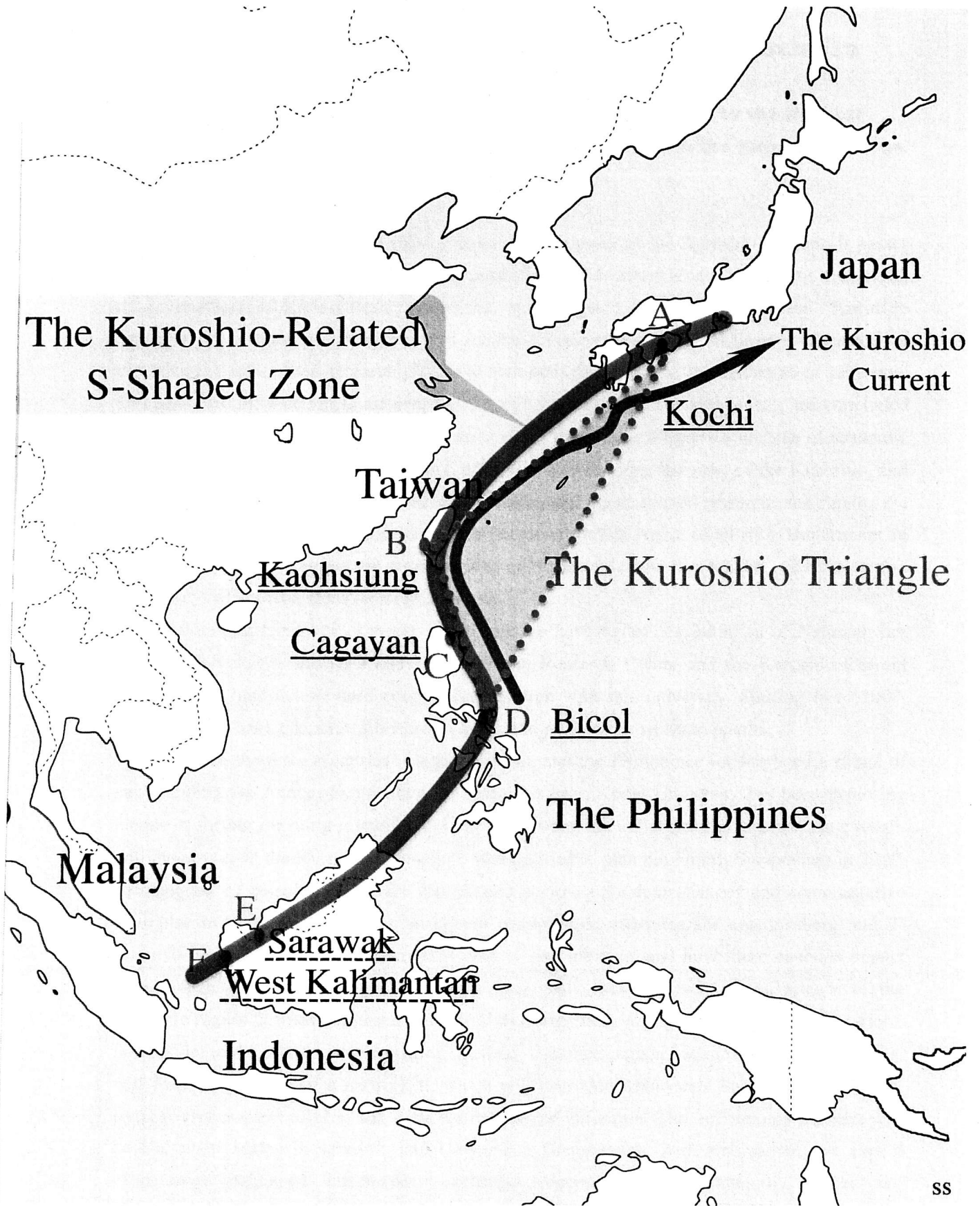
Universitas Tanjungpura



Field survey: 8 Nov.

Tosa Bay, Muroto Peninsula

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The Forth International Symposium on Kuroshio Science

Effects of Recent Societal Changes and Modifications to the Natural Environment on the Marine and Land-based Ecosystem in the Kuroshio Region.

1. Background and objectives

The eastern coast of the Philippines is the starting point of the Kuroshio Current; it passes Taiwan, and travels northward of Japan through the Pacific Ocean. Kochi University, along with other members of our research consortium, have targeted this area, termed the “Kuroshio Triangle”, and conducted a wide range of studies, focusing particularly on surveys of the coastal environment and related research. We have also actively promoted the exchange of personnel and scientific information to achieve these goals. Starting with the Philippines, we concluded cooperative agreements with the University of the Philippines, which is a nucleus of academic pursuit in this country; Bicol University, which is situated along the flow of the Kuroshio, and has accumulated a wealth of experience in fisheries and ocean-related research; and finally, the Bureau of Fisheries and Aquatic Resources (Regional Office No. 2 of BFAR), Department of Agriculture, which oversees the ocean regions of Northern Luzon. Since 2006, we have carried out surveys of specific areas on a regular basis.

On the other hand, for example, in Taiwan, we have hailed the initiation of National Sun Yat-sen University’s the Asia and Pacific Ocean Research Center and the Kuroshio Current Study Group, and commenced cooperative research with this university. Starting from 2007, every year we have taken turns hosting symposia to present our research results.

Last year, the three countries – Japan, Taiwan, and the Philippines – completed a round of each holding the Annual Symposium, so since this year, Kochi University has been exploring means of further pursuing research development among the collaborating partners. As a result, with emphasis on the Kuroshio Triangle, it was decided to plan the Fourth Symposium in 2010, focusing on 1) research on recent natural and socio-economical changes and representative examples of resultant alterations to natural phenomena; measures for amelioration, and 2) research on global changes in economic activity and lifestyle, and how these changes impact environmental issues. This Symposium will especially focus on islands/archipelagos of the Kuroshio region that have engaged in cultural exchange from a very early time in history. Here, universities and institutions representing the three countries, Japan, Taiwan, and the Philippines, will form the nucleus of a network to which will be added Malaysia’s Sarawak States which possess vast tropical forests, and West Kalimantan of Indonesia. The institutional partners will be Universiti Malaysia Sarawak, and Universitas Tanjungpura, West Kalimantan; we expect even more enhanced information exchange concerning the effects of natural and

socio-economical changes on the ecology of coastal and land-based areas of the Kuroshio region. The addition of these countries to our network will expand the Kuroshio Triangle to form a new domain, named here as “The Kuroshio-Related S-Shaped Zone” (please refer to the attached map). Both of these organizations will be concerned with addressing ecological and environmental problems that extend beyond national boundaries. In our forthcoming Symposium, we look forward to hearing the voices of Universiti Malaysia Sarawak, and Universitas Tanjungpura, West Kalimantan.

Thus, in the Fourth Symposium that will be held at Kochi University, these universities and organizations representing “The Kuroshio-Related S-Shaped Zone” will together take up the topic of how recent societal changes and modifications to the natural environment have affected the coastal and land-based environments in the Kuroshio region. We will on this basis, plan further cooperative works and surveys, thus enlarging our Kuroshio-related network and capacity to perform cooperative research.

2. Venue

Media Hall, Kochi University, Asakura, Kochi , 780-8520 Japan

3. Period

Symposium: November 6,7, 2010,

Filed Survey: November 8, 2010 ,

1. Tosa Bay cruise,

2. Muroto Peninsula Survey

(Kochi Prefectural Deep Sea Water Laboratory at Muroto Peninsula, National Muroto Youth Outdoor Learning Center)

1st Day: 2010, Nov. 6 (Sat), Morning Session

Socio-Economic Structure: 9:20-10:50

Chairperson: Dr. Nieves, Dr. Mok, Dr. Morooka

9:20-9:40

Effect of Nature and Socio-Economic Changes on Coastal and Upland Ecosystem in San Miguel Island, Albay, Philippines ----- Plutomeo M. Nieves and Raul Bradecina

9:40-10:00

Governance, Property Rights and Effectiveness of MPA Management Regimes in Lagonoy Gulf, Philippines-----Raul G. Bradecina, Teruyuki Shinbo, Victor S. Soliman, Yoshinori Morooka

10:00-10:20

Cost and Benefit of the Marine Protected Area as Commons:
Case Study of MPA in the San Miguel Island (SMI), Albay, Philippines

-----Teruyuki Shinbo, Raul Bradecina, Yoshinori Morooka

10:20-10:40

Study on adaptive strategies to integrated management of the marine protect areas in Kenting, Taiwan and San Miguel Island, Bicol, the Philippines-----Yi-Chen Lin, Jeng-Di Lee, Choi Pik Yip, Chin-Hsin Hsieh

10:40-10:50 **Session Summary**

10:50-11:00 Coffee break

Algae; Biology and Bio-Medicine: 11:00-11:45

Chairperson: Dr. Okuda, Dr. E. Ame, Dr. Ohtani

11:00-11:15

Induction of rhizoid formation in the coenocytic green alga *Valonia*
-----Paul Rommel Elvira, Satoko Sekida & Kazuo Okuda

11:15-11:35

Effects of Edible Algae on Immune Responses-----Akira Tominaga, Fujii Teruyuki, Hiromi Okuyama, Takahiro Taguchi, Yutaka Kusumoto, Shiro Ono

11:35-11:45: **Session Summary**

11:45-13:15: **Lunch**

1st Day: 2010, Nov. 6 (Sat), Afternoon Session1

Marine Biology & Ecology: 13:15-14:50

Chairperson: Dr. Mok, Dr. Ueda, Dr. Shashank

13:15-13:30

The expanding distribution of tropical *Sargassum* spp. (brown seaweed) and the decline of *Sargassum* bed areas in Kochi, on the Pacific coast of south-western Japan.

-----Kouki Tanaka, Seiya Taino, Hiroko Haraguchi, Masanori Hiraoka

13:30-13:50

Environmental and Social Impact on coral reefs – case study in Taiwan

----- Keshavmurthy Shashank, Chaolun Allen Chen

13:50-14:05

Brackish-Water Copepod Faunas in Kuroshio Current Region with Note on the Relationship with the Ocean Currents-----

Sakiko Orui Sakaguchi, Hiroshi Ueda

14:05-14:20

Seasonal and Interannual Changes of Copepod Assemblage in the Inner Part of Ariake Bay from 2003 to 2007-----

Roberta Beltrão, Hiroshi Ueda, Michiko Monde, Toshio Shuto

14:20-14:40

Hagfish Related Researches in Taiwan-----

Kuo-Hsun Chiu and Hin-Kiu Mok

14:40-14:50: Session Summary

1st Day: 2010, Nov. 6 (Sat), Afternoon Session 2

**Marine Bio-Resources and Socio-Economic Conditions:
14:50-17:10**

Chairperson: Dr. Yamaoka, Dr. Ohshima, Dr. Siti Akmar, Dr. Jeng-Di Lee

14:50-15:10

Razor Clams (*Solen* spp.) Fishery of Sarawak

----- Siti Akmar Khadijah Ab. Rahim

15:10-15:30

Underwater ambient biological noise in shallow-water coastal areas of Taiwan

-----Hin-kiu Mok, Yuen-chi Lin, Kai-en Tsai, Szu-ying Lin

15:30-15:40 Coffee break

15:40-16:00

Heavy Metal Content of Sipunculans from Taiwan in relation to geo-environmental characteristics of wetland and seagrass habitats----- I-Ting Hsieh*, Hin Kiu Mok

16:00-16:20

Socio-Economic Condition and Status of Biophysical Resources along Kuroshio Region – Cagayan Province, Philippines

-----Evelyn C. Ame, Jovita P. Ayson, Venchito B. Villarao, Alejandro A. Belen and Reynaldo B. Ame

16:20-16:40

Improved Management of the *Nypa* Mangrove as a Mitigating Measure to Resource over-Utilization in Pamplona, Cagayan

-----Reynaldo B. Ame, Evelyn C. Ame, Yoshinori Morooka

16:40-17:00

A Multi-Dimensional Analysis of Climate Impacts and Adaptation in a Siganid Fishery Toward Local Governance

-----Victor S. Soliman, Fay Lea Patria M. Lauraya, Kosaku Yamaoka

17:00-17:10: Session Summary

17:10-17:40

Sea-Kayak; A new method for field study

A new method for field study on the interrelationship between fishers and the sea at the origin of Kuroshio Current using sea-kayaks-----Yahata Satoru, Ohnuki Yoh and Yamaoka Kosaku

2nd Day: 2010, Nov. 7 (Sun).

Forest Ecological System & Basic Concept for Nature Conservation: 9:00-10:50

Chairperson: Dr. Iiguni, Dr. M. Tanaka, Dr. S. Tanaka

9:00-9:10: Introduction; Dr. Iiguni

9:10-9:40

New integrated studies covering from the headwater to the ocean" H to O Studies"

: Basic concept for nature conservation and more sustainable human society-----Masaru Tanaka

9:40-10:00

What happens in the forest area of Kochi?-----Yoshiaki Iiguni

10:00-10:20

Soils and Vegetation of Natural Forests and Secondary Fallow Forests within Batang Ai National Park Boundary, Sarawak, Malaysia-----Mohd Effendi Wasli,

Sota Tanaka, Joseph Jawa Kendawang, Arifin Abdu, Katsutoshi Sakurai, Shabdin Mohd Long

10:20-10:30 Coffee break

10:30-10:50

Eutrophication of lakes in relation to lake morphometry, temperature, and macrophytes

-----Motomi Genkai-Kato, Stephen R. Carpenter

Research and Education in Asia

10:50-11:10

Prospect of Tanjungpura University in Relation with the New Indonesia Education Budget Policy

-----Elvira

11:10-11:30

Future Perspective and Future Plan-----Dr. Morooka, Dr. Mok, and Dr. Nieves

11:30-13:30: Lunch

13:30-15:30 Kinotsurayuki Festival: Back to The Heian Period, (794-1185)

Kinotsurayuki: 866-945, A bureaucrat lived in the Heian Period and stayed at Kochi as a Governor, who started writing diaries in Hiragana.