

Report on the First International Symposium on Geological Anatomy of East and South Asia (IGCP 516) held at Tsukuba, Japan (10-17 October, 2005)

The First International Symposium on Geological Anatomy of East and South Asia was held at the University of Tsukuba in Tsukuba, Japan, during 10-17 October, 2005. This is the kickoff meeting of a new International Geoscience Programme, IGCP 516, which is a five-years project started from this year. This project is the successor of ICCP 411 (Leader: Prof. Shigeki Hada, Japan), which successfully ended last year. IGCP 516 aims at understanding the origin and assembly process of Gondwana-derived terranes and the final emplacement of these terranes into the Asian continent during Phanerozoic times. The fundamental goal of this project is to gain paleogeography and paleoenvironment in the eastern Tethys.

The symposium was organized by the four proposers of IGCP 516: Dr. Ken-ichiro Hisada (University of Tsukuba, Japan), Dr. Byung-Joo Lee (KIGAM, Korea), Dr. Punya Charusiri (Chulalongkorn University, Thailand), and Prof. Xiaochi Jin (Institute of Geology, CAGS, P. R. China). Among them, Dr. Ken-ichiro Hisada took substantial leadership for organizing this symposium, with the help of three secretaries: Dr. Katsumi Ueno (Fukuoka University, Japan), Dr. Yoshihito Kamata (Yamaguchi University), and Dr. Hidetoshi Hara (Geological Survey of Japan, AIST, Japan).

The symposium consists of two-days scientific sessions and pre- and post-symposium excursions. A total of 60 participants came from 14 countries. They are: Australia (1), Bangladesh (1), P. R. China (2), India (2), Italy (2), Japan (31), Korea (2), Lao PDR (1), Malaysia (1), Mongolia (1), Pakistan (1), Philippine (2), Thailand (12), and U.S.A. (1) (numerals in parentheses are the number of participants).

Scientific session

The scientific session of the symposium was held on 13 and 14 October, 2005, at Special Meeting Room of the University Hall of the University of Tsukuba. Symposium topics include: stratigraphy, tectonics, structural geology, sedimentology, mineral resources, magmatism, paleomagnetism, paleogeography, paleontology, paleoceanography,

environmental geology, geological hazards, and other geological subjects related with East and South Asia.

The scientific session was started by the opening address by Dr. Ken-ichiro Hisada, in which Dr. Hisada also introduced the aim of the project and symposium to the participants. Then, Prof. Shoji Arai gave keynote lecture entitled “Dual importance of ophiolite as insights into mid-oceanic ridge and incipient arc processes.” This was the most up-to-date, very comprehensive introduction on ophiolite and ophiolite study. In the following eight scientific sessions over two days, totally 29 oral papers were presented.

In the early afternoon of the second day (14 October, 2005), poster session was held, in which 18 posters were displayed. All posters are tours de force, and participants had active discussion during the poster session.

The two-days scientific session was successfully finished by the closing address by Dr. Punya Charusiri. On behalf of the organizing committee of this symposium, Dr. Charusiri informed that the coming meeting plan of IGCP 516 has been discussed and settled during the business meeting. Finally, Dr. Charusiri expressed his great appreciation to all the speakers, participants, and secretariat for making this kickoff meeting of IGCP 516 successful and fruitful.

Field Excursions

Pre- and post-symposium field excursions were also held during the symposium. In consideration of major topic of IGCP 516, Jurassic and Cretaceous accretionary complexes in the Ashio and Kanto Mountains, which are not very far from Tsukuba, were focused on during these two excursions. For participants, this was a good opportunity to understand the accretionary complex in Japan, which is one of the most typical and well-studied accretionary complexes in the world.

The pre-symposium field excursion, featuring “Overview of Jurassic accretionary complex of the Ashio Belt in the Ashio Mountains, Central Japan”, was guided by Dr. Yoshihito Kamata with the help of two students from the University of Tsukuba, Messrs Ken-ichi Hirauchi and Hotaka Ito, and held during 10-12 October, 2005. There were 20 participants in this field excursion. The participants visited six stops during the excursion and examined coherent and *mélange* units constituting Jurassic accretionary complex in the Ashio

Mountains.

The post-symposium field excursion was featured on “New profile of upper to lower structural levels in an accretionary complex in the Kanto Mountains, Central Japan”, and guided by Dr. Hidetoshi Hara with the assistance of two students from the University of Tsukuba, Messrs Ken-ichi Hirauchi and Yosuke Saito. This excursion, with 17 participants, was held during 15-17 October, 2005. During the excursion, the participants examined shallower to deeper structural domains of a Cretaceous accretionary complex distributed in the Kanto Mountains at six stops, such as trench-filling turbidites, mélange, and low- to high-grade metamorphic rocks.

Business Meeting

A business meeting of IGCP 516 was held during the lunch time on 13 October, 2005. Twenty-two people from most of the countries related to IGCP 516 joined the business meeting. After the brief explanation of the project proposal by Dr. Ken-ichiro Hisada, leader (co-leaders), regional coordinators from each country, and secretary selections were made. The four proposers of IGCP 516, Dr. Ken-ichiro Hisada, Dr. Byung-Joo Lee, Dr. Punya Charusiri, and Prof. Xiaochi Jin, were elected as the co-leaders, and among them, Dr. Hisada was elected as the representative of the co-leaders by unanimous consent. For secretariat, Dr. Hisada proposed Dr. Katsumi Ueno, Dr. Yoshihito Kamata, and Dr. Hidetoshi Hara, and Dr. Ueno was selected as a responsible secretary. For regional coordinators from each country, it was decided to be reported to the secretaries from the person present at the business meeting immediately after this symposium.

Then, participants discussed work plan and coming meetings of this project, and the following places of meetings during 2006-2010 (note that 2010 is of OET: On Extended Term of the project, so it is not yet formally settled if this project will be continued by 2010 at the moment) were proposed and accepted by the participants (within parentheses is the host of each meeting).

2006 Philippine (Dr. Graciano Perez Yummul, Jr.: University of the Philippines)

2007 India (Prof. Talat Ahmad: University of Delhi)

2008 Pakistan (Dr. Rehan-ul-Haq Siddiqui: Geological Survey of Pakistan)

2009 China (Prof. Xiaochi Jin: Institute of Geology, CAGS)

2010 Thailand (Dr. Punya Charusiri: Chulalongkorn University)

Also we discussed our more concrete objectives in response to indication as follows by the Scientific Board 33rd Session WG-4;

1) Work plan lacks detail about specific regions to be studied and what kind of data will be collected from these sites.

2) The proponents give a list of laboratory studies, but fail to say what kind of laboratory work will be carried out and in which laboratory?

3) Work plan, although poorly defined, appears to be very broad and needs to be more focused to achieve results in time frame proposed.

We selected three main regions; Circum-the Sea of Japan, Indochina and Indian Himalayas. In these regions, we can focus on paleogeographic reconstruction based on recognition such as island arc, volcanic arc, accretionary prism, forearc, and back arc. To achieve this, making geologic profiles across these regions will be principal works. Kinds and places of laboratory work will be considered in progress of our project.

The next meeting of IGCP 516 will be held in Philippine in October next year by the host of Dr. Graciano Perez Yummul, Jr. of the University of the Philippines.

Pre-excursion report

Pre-excursion of the First Symposium of the IGCP516 held in Tsukuba has carried out from 11th to 12th of October 2005. This excursion aimed at observing and discussing the constituent rocks and essential characters of the Jurassic accretionary complex of Japan.

We visited to the southern part of the Ashio Mountains and observed rocks of the Jurassic accretionary complex that consists of oceanic rocks (basalt, limestone and radiolarian chert) and terrigenous rocks (siliceous shale, shale and sandstone). We stopped at six

localities and observed typical constituent rocks of the Jurassic accretionary complex of Japan. Also we discussed on the reconstruction of the primary stratigraphy (Oceanic Plate Stratigraphy). We exchanged views especially with all participants on a mixing process of constituent rocks into the *mélange*.

Twenty participant's special fields and geological contexts from nine nations are very wide. The discussion and opinion exchange have been carried out in a wide view and very fruitful. List of participants is as follows;

TRIPATHY, Nihar Ranjan (India), AHMAD, Talat (India), SHEN, Shuzhong (China), LEE, Byung-Joo (Korea), JIN, Xiaochi (China), TSUKADA, Kazuhiro (Japan), CHULUUN, Minjin (Mongolia), OSOZAWA, Soichi (Japan), FLOWER, Martin Frederick Joseph (U.S.A), HAYAKAWA, Naoki (Japan), PINI, Gian Andrea (Italy), LUCENTE, Claudio Corrado (Italy), KHAMPAVONG, Keo (Laos), DIMALANTA, Carla Besa (Philippine), KAMATA, Yoshihito (Japan), HISADA, Ken-ichiro (Japan), HARA, Hidetoshi (Japan), UENO, Katsumi (Japan), HIRAUCHI Ken-ichi (Japan), ITO Hotaka (Japan)

Post-excursion report

Post-symposium excursion featuring “New profile of upper to lower structural levels in an accretionary prism -the Cretaceous Shimanto accretionary complex in the Kanto Mountains, central Japan-” was performed on October 15 and 16 by field trip leader of Dr. Hara (Geological Survey of Japan).

The Shimanto accretionary complex in the Kanto Mountains has geological information through upper to lower structural levels continuously in the accretionary prism. Participants have gained the knowledge of characters and outlines of accretionary complex through pre-symposium excursion and presentations at the meeting. In the post-symposium excursion, we focused on overviewing the orthogonal profile of accretionary prism. By the difference of structural level, we were able to observe the difference phenomena for metamorphism, deformation structure and accretionary process. We also discussed the process of deformation, and *mélange* mechanism and importance of major decollement and thrust in outcrops. Discussions and suggestions from participants are significant and useful for field trip leader, because Dr. Hara still continues his study as quadrangle geological mapping project of Geological Survey of Japan.

At some of the excursion sites, we were needed to pass across a stream in ankle- to shin-deep, and got wet on our feet. It is usual survey style in Japan, however participants might feel to be somewhat hard job. Anyway, we believed that our post-excursion was successful owing to geological interests, discussion among participants and stay at traditional Japanese accommodation with delicious meals.

Participant List of Post-Symposium Excursion; Leader: HARA, Hidetoshi (Geological Survey of Japan, AIST, JAPAN) 1. AHMAD, Talat (Department of Geology, University of Delhi, INDIA) 2. CHULUUN, Minjin (Mongolian University of Science and Technology, MONGOLIA) 3. DIMALANTA, Carla Besa (National Institute of Geological Sciences, College of Science, University of the Philippines, PHILIPPINES) 4. HAYAKAWA, Naoki (Graduate School of Science, Fukuoka University, JAPAN) 5. KHAMPAVONG, Keo (Department of Geology and Mines, LAO,P.D.R) 6. IMSAMUT, Suvapak (Geological Survey Division, Department of Mineral Resources, THAILAND) 7. JIN, Xiaochi (Institute of Geology, Chinese Academy of Geological Sciences, P.R. CHINA) 8. LUCENTE, Claudio Corrado (STB-PdS Modena, Regione Emilia-Romagna, ITALY) 9. PINI, Gian Andrea (Dipartimento di Scienze della Terra, Università di Bologna, ITALY) 10. SIDDIQUI, Rehan-ul-Haq (Geoscience Advance Research Laboratories, Geological Survey of Pakistan, PAKISTAN) 11. TSUKADA, Kazuhiro (The Nagoya University Museum, Nagoya University, JAPAN) 12. YUMUL, Graciano Perez, Jr. (National Institute of Geological Sciences, College of Science, University of the Philippines, PHILIPPINES) 13. HISADA, Keni-chiro (Graduate School of Life and Environmental Sciences, University of Tsukuba, JAPAN) 14. KAMATA, Yoshihito (Research Institute for Time Studies, Yamaguchi University, JAPAN) 15. HIRAUCHI, Ken-ichi (Doctoral Program in Earth Evolution Sciences, University of Tsukuba, JAPAN) 16. SAITO, Yosuke (Master's Program in Education, University of Tsukuba, JAPAN)