

Draft-REPORT OF THE
REGIONAL TRAINING/WORKSHOP ON IDENTIFICATION OF
DEEP-SEA FISHES

Samutprakarn, Thailand, 18-22 January 2010



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**Report of the Regional Training/Workshop on
Identification of Deep-Sea Fishes**

18-22 January 2010, SEAFDEC/Training Department, Thailand

PART I

**DRAFT-Report of the
Regional Training/Workshop on Identification of Deep-Sea Fishes**

18-22 January 2010, SEAFDEC/Training Department, Thailand

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I. Introduction

1. The Training Workshop on Identification of Deep-Sea Fishes was organized by the SEAFDEC Training Department (SEAFDEC/TD) and financed by SEAFDEC through the Japanese Trust Fund. The Training Workshop was held at the SEAFDEC Training Department in Samut Prakan, Thailand from 18 to 22 January 2010.
2. This Training provides a comprehensive set of knowledge on the identification of deep-sea demersal fishes with emphasis on the species found in the South China Sea. The Training attempted on building the capacity of the participants to identify species commonly captured at water depths between 100 and 900 m by using morphology and habitat preferences.
3. The Workshop was attended by researchers and specialists in the field/area of deep-sea taxonomy and fish identification from the SEAFDEC Member Countries, an expert from Fisheries Science Center of the Hokkaido University Museum, senior researcher from the research center for capture fisheries of Indonesia, and Japanese expert and former deputy chief of SEAFDEC Marine Fishery Resources Development and Management Department (SEAFDEC/MFRDMD). The list of participants and resource person appears as **Annex 1**.
4. The Workshop was carried out with the following specific objectives;
 - Enhance the human resources capacity on deep-sea fish species identification;
 - Encourage the SEAFDEC Member Countries to initiate deep-sea resources exploration ensuring the accurate deep-sea fishes identification;
 - Support the national resources surveys of the Member Countries and the investigation of the impacts of deep-sea trawling on the sea bottom ecosystem program through the identification of deep-sea species composition.
5. Envisaged outcomes of the training;
 - Enhanced human resource capacity in deep-sea fish identification;
 - Enhanced human resource capacity in practical works, including specimen measurement, counting, describes morphological characters of the deep-sea fishes collected from the actual survey;
 - Complete information on the deep-sea fish species distributed in the Southeast Asian waters.

II. Opening of the Training Workshop

6. The Secretary-General of SEAFDEC, Dr. Chumnarn Pongsri in His Opening Message, welcomed the participants to the Training Workshop. He underlined the needs of building human resources capacity in the region with regards to deep-sea fish identification to support SEAFDEC member countries deep-sea fishery resources exploration efforts. He also expresses the wish of SEAFDEC for all participants to have strong interest in gaining knowledge and experiences in deep-sea fish identification. His Message appears as **Annex 2**.

III. Country Reports and Resource Person Presentations

7. The introduction to the workshop, the arrangement and activities of the workshop appear as **Annex 3/1-3/4**.
8. The participants from each country were presented their experiences on deep-sea fishes identification as well as coastal fishes, major references used for identification, retention of scientific fish collection, and networks among fish taxonomist for identification of unknown specimens at national levels. The presentation appears as **Annex 4/1-4/8**.
9. The presentations made by the resource persons provided the basis that guided, transferred the knowledge, and shared experiences and lessons learned among the participants. The presentations included:
 - General procedure for sampling, identification and collection management of deep-sea fishes by Dr. Yoshinobu Konishi (**Annex 5**).
 - Japanese-Indonesia deep-sea fisheries resources joint exploration project and experiences on commercial deep-sea trawl by Dr. Fayakun Satria (**Annex 6**).
 - Fish morphology and general characters useful for identification of deep-sea fishes in the Southeast Asian Region by Dr. Toshio Kawai (**Annex 7**).
 - Photography method of fish specimens and collection building at the Hokkaido University museum by Dr. Toshio Kawai (**Annex 8**).

IV. Practice of fish identification and photography

10. At the first day (January 19) of practical work in laboratory, the participants were assigned to working in pair and each group was provided the specimens in a single family that preserved in 70% ethanol which were collected from beam trawl and otter-trawl from Brunei Darussalam Waters at depth between 100 and 374 m during the collaborative survey by M.V. SEAFDEC 2 in June - July 2008.

11. Participants were requested to identify the specimens up to species level or the lowest taxa and practice on counting, measuring, and examining the pertinent external anatomical structures that are necessary keys to be used in identifying the deep-sea fishes and filled in the datasheet (**Annex 9**). At the end of the day, the participants were presented the results of identification and diagnosis for the allocated specimens.
12. On the 20th and 21st January of practical work at laboratory, the participants were given an introduction on the photography techniques by Mr. Mekkara Phanchuen, the audio-visual officer, of SEAFDEC/TD. The participants were provided the fresh (frozen) specimens which were collected from beam trawl from Brunei Darussalam Waters at depth between 100 and 350 m during the collaborative survey by M.V. SEAFDEC 2 in March - April 2009.
13. The participants were practice on setting position of the fish specimens (e.g. raising the dorsal fin, pectoral fin, anal fin, spine, and filaments, etc.) then taking photos of fishes using the camera stand both indoor and outdoor. After measuring and counting of the specimens, the fishes were identifying into the lowest taxa under the supervision of the resource persons.
14. Each group of participants was made presentation on the results of their group assignments with the fresh specimens. Then the discussion and clarification including advice on the results were made among the resource person and participants. The presentation appears as **Annex 10/1- 10/5**.

V. Discussion and Recommendations

15. Based on the discussion, the workshop further suggested that:
 - The information on deep-sea resources should be provided not only fish species but all commercial important of living animal in deep sea, e.g. deep-sea shrimp, etc. Further HRD program what provided for scientists of SEAFDEC member countries should focus to deep-sea invertebrate species particularly on the Crustaceans.
 - To strengthening the capacity, both at national and regional level, should be considered for future collaboration in the stock assessment of the deep-sea fishery resources.
 - SEAFDEC/TD should be collaborating with the national research vessels in Malaysia and/or Indonesia to conduct the deep-sea resource survey to collect the specimens deeper than 500m.
 - SEAFDEC/TD should keep continuing on the deep-sea resource survey in the region and disseminated the information to the SEAFDEC member countries
 - A field guide book or a picture book of deep-sea fishes should be developed to fulfill the taxonomic work in the region however national field guide book should be developed by national initiative.

- In order to build up human capacity on taxonomy in Southeast Asian Region, SEAFDEC/TD could? or should promote one or two participants from the course to concentrate study/work in taxonomy in Japan or other countries.
- SEAFDEC member countries should considered the SOP those developed during the workshop in May 2009 for the information on the methodologies and effective fishing gears that suitable with the topography to be use in the future deep-sea resources survey.
- In order to build up national resource person on deep-sea fish identification, SEAFDEC/TD should assist/collaborate/coordinate with member countries to organize the onsite trainings course on deep-sea fish identification or relevant subjects.

16. The workshop was agree to:

- Establish the network/expert for deep-sea fish taxonomy through coordination and collaboration among the participants/experts of the workshop and also other initiatives in the region.
- Sharable information and dissemination on the results of the deep-sea survey e.g. species diversity, could be shared on the website and database which already provided by SEAFDEC/TD.
- Information sharing and updating will be facilitating by SEAFDEC/TD.

17. As regards the taxonomic work on the deep-sea fish species in the region, Dr. Toshio Kawai, resource person from Hokkaido University, recommended to the workshop that the fish specimens with insufficient information on identification should be send to the Hokkaido University museum in order to confirm the specimens, and the manuscript according the deep-sea fishes taxonomy and morphology could be provide to all participants. Dr Yoshinobu Konichi also kindly informed that deep-sea species and relevant subjects, e.g. fishing ground topography, collected/investigated in South China Sea is able to provide to scientists of SEAFDEC member countries.

18. The meeting was informed by Mr. Jamil Musel, participant from Malaysia, that Malaysia going to conduct the deep-sea resources survey using K.K. Manchong this March 2010 and would like SEAFDEC/TD to joint the survey if possible. He also requested to Brunei participants on background information of deep-sea species collected by Brunei scientists, regarding to the survey area designated by FRI/Sarawak is adjacent to Brunei Waters. On this occasion, Ms. Moe Moe Myint, participant from Myanmar also informed that Myanmar welcome all scientists from SEAFDEC member countries to collaborate on identification of deep-sea fish samples what were collected within Myanmar Waters.

19. The meeting was also informed by Mrs. Penjan Laongmanee that Brunei Darussalam would like SEAFDEC/TD to teach their staff how to make a manuscript of a fish guide book. Therefore, SEAFDEC/TD already arranged two staff to go to Brunei Darussalam.
20. The results of the fish identification during the workshop included the photo of the fishes will be added to the “deep-sea fish collection database” those demonstrated to the workshop by Dr. Natinee Sukramongkol (**Annex 11**).
21. The report will be circulated to the participants and resource persons to obtain comments/amendments. This report will be finalized as soon as possible.

VI. Closing of the Training Workshop

22. Certificates of achievements were presented to the participants and resource persons by SEAFDEC Deputy Secretary-General, Mr. Hideki Tsubata. After expressed his appreciation to the participants for their active participated and willingness to apply and contribution what the participants have learned from the workshop, he declared the workshop closed. His Message appears as **Annex 12**.

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OPENING SPEECH
By SEAFDEC Secretary - General
The Training/Workshop on Identification of Deep-Sea Fish
At SEAFDEC/TD
18-22 January 2010

SEAFDEC Deputy Secretary General, Mr. Hideki Tsubata, Distinguished Resources Persons, participants, officers and staff of the SEAFDEC Training Department, A Very Good Morning.

First of all, on behalf of SEAFDEC, I would like to welcome all of you to the SEAFDEC/Training Department. Following the information provided by the Course Director of this Training, Dr. Worawit Wanchana on the background, you may know that this Training/Workshop is one of the regional initiatives implemented under the Japanese Trust Fund2 program on “Deep Sea Fisheries Resources exploration in the Southeast Asian Waters”. Various activities have been conducted under this program since in 2007. However, there is still a need to build human resources capacity in our region with regards to deep-sea fish identification. This is part of our commitment to assist the SEAFDEC Member Countries in building their capabilities to support their deep-sea fishery resources exploration efforts.

During this training program, I am pleased to inform you that we have invited well known experts as our resource persons. We have with us Dr. Yoshinobu Konishi, former senior researcher of the Seikai National Fisheries Research Institute, Nagasaki, JAPAN; Dr. Toshio Kawai from the Hokkaido University Museum of JAPAN; and Dr. Fayakun Satria from the Research Center for Capture Fisheries of Indonesia. We have chosen them for we are sure that with their expertise they could provide our participants with the best knowledge in fish identification focusing on deep-sea fishes. I have also gathered from our resource persons that they would be very pleased to share their knowledge and experiences with all of you during this training program. So, even if you will have a hectic schedule during the next 5 days, I am sure you will enjoy the training with our experts and the staff concerned.

Ladies and Gentlemen, I wish to take this opportunity to express the wish of SEAFDEC for all participants to have strong interest in gaining knowledge and experiences in deep-sea fish identification. With that note ladies and gentlemen and without further ado, I now declare this training/workshop on the identification of deep sea fishes, open. Thank you and Good Day!

| Date/Program | Details of Activity/Topic |
|------------------------------------|---|
| 15 January (Friday) | Resources persons arrive at the SEAFDEC Training Department (Samut Prakan, Thailand) |
| 16 January (Saturday) | Workshop preparations |
| 17 January (Sunday) | Workshop preparations/Participants arrive at the SEAFDEC Training Department (Samut Prakan, Thailand) |
| 18 January (Monday) | Opening ceremony, Country report, Lectures |
| 09:00-09:30 (Lecture room) | Introduction to the workshop by Dr.Worawit Wanchana |
| 09:30 – 09:45 | Activity brief by Ms. Penchan Laongmanee |
| 09:45 – 10:30 | Country report (<10 min /person) |
| 10:30 – 10:45 | Coffee break |
| 10:45 – 11:40 | Country report (continued) |
| 11:40 – 12:30 | General procedure for sampling, identification and collection management of deep-sea fishes by Dr. Yoshinobu Konishi |
| 12:30 – 13:30 | Lunch |
| 13:30-15:00 | Japan-Indonesia Deep Sea Fishery Resources Joint Exploration Project and experiences on commercial deep sea trawl by Dr. Fayakun Satria |
| 15:00 – 15:15 | Coffee break |
| 15:15 – 15:30 (Conference room) | Opening Ceremony and group photo |
| 15:30 -16: 30 | Fish morphology and general characters useful for identification of deep-sea fishes in the Southeast Asian region by Dr. Toshio Kawai |
| 16:30 – 17:30 | Photography method of fish specimens and collection building at the Hokkaido University Museum by Dr. Toshio Kawai |
| 18:30 – 20:00 | Welcome dinner |
| 19 January (Tuesday) | Practice of identification |
| 09:00 – 17:00 (Laboratory) | Practice of fish identification with preserved specimens (supervised by resource persons) |
| 20 January (Wednesday) | Practice of identification and photography |
| 09:00 – 09:30 | Photography Tips & Techniques by Mr. Mokka Phanchuen |
| 09:30 – 17:00 (Laboratory) | Identification with fresh specimens and practice of fish photography (supervised by resource persons) |
| 21 January (Thursday) | Practice of identification and photography |
| 09:00 – 17:00 (Laboratory) | Identification with fresh specimens and practice of fish photography (supervised by resource persons) |
| 22 January (Friday) | Discussions, Demonstration of database, Closing ceremony |
| 09:00 – 11:15 (Laboratory) | Presentation and discussion on results of assignment (<30 min / group) |
| 11:15 – 11:30 | Demonstration of deep-sea fishes database of SEAFDEC by Dr. Natinee Sukramongkol |
| 11:30 – 13:00 | Discussion on registration of the specimens in database and regional system to support identification of unknown specimens |
| 13:00 – 14:00 | Lunch |
| 14:00 – 14:30 (Lecture room) | Closing ceremony |
| 18:30 | Farewell dinner |
| 23 January (Saturday) | |
| | Participants leave the SEAFDEC Training Department for home countries |

List of Documents**Information Documents**

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|---------|--|
| *INF_01 | Provisional Prospectus, time table, and annotated agenda |
| *INF_02 | Outline of laboratory activities |

Working Documents

| | |
|--------|--|
| *WP_01 | General procedures for sampling, identification and collection management of deep-sea fishes |
| *WP_02 | Japan-Indonesia Deep Sea Fishery Resources Joint Exploration Project and experiences on commercial deep sea trawl |
| *WP_03 | Fish morphology and general characteristics useful for the identification of deep-sea fishes in the Southeast Asian region |
| *WP_04 | Photography method of fish specimens and collection building at the Hokkaido University Museum |

References

| | |
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| *REF_01 | FAO Species Identification Guide for Fishery Propose: The living marine resources of the Western Central Pacific. Volume 1-6 |
| *REF_02 | Continental Shelf Fishes of Northern And North Western Australia |
| *REF_03 | Fishes of Japan with pictorial keys to the species,(1th) |
| *REF_04 | Fishes of Japan with pictorial keys to the species,(2th) |
| *REF_05 | Fishes of the World (4 th edition) |
| *REF_06 | The Japan-Indonesia Deep Sea Fishery Resources Joint Exploration Project (Photo Album) |
| *REF_07 | Trawled fishes of southern Indonesia and Northwestern Australia |

* Available in DVD-ROM

**Closing Remarks
By Mr. Hideki Tsubata
SEAFDEC Deputy Secretary-General and
Trust Fund Program Manager
22 January 2010**

Distinguished Resource Persons, participants, and colleagues from the Training Department, Good afternoon!

First of all, I wish to inform you that I am very happy to note the success of this Regional Training/Workshop on Identification of Deep Sea Fishes. I must say that I am most impressed by your active participation during the 5-day training workshop, especially your strong sense of interest and the efforts you exerted in the laboratory works. I am also pleased to learn that you have planned to establish a network of deep sea fish taxonomists. Recognizing this as a very useful avenue to share/exchange and update the progress of deep sea fish identification in our region, SEAFDEC would be willing to provide assistance for the sustainability of this network.

As this regional training workshop comes to a close today, I would like to thank our resource persons and experts in the persons of Dr. Yoshinobu Konshi, Dr. Toshio Kawai and Dr. Fayakun Satria for sharing their knowledge and skills with the participants. We are also thankful to the organizing team for your efforts in providing the best support to this training workshop. We are also grateful for the continued financial support from the Japanese Trust Fund through SEAFDEC, for making this training workshop possible.

Ladies and gentlemen, our work does not end here. Please keep in mind that the realization of your respective activities on Deep Sea Fisheries Resources Exploration depends on your willingness and intention to apply what you have learned from this training workshop. On our part, SEAFDEC will make effort to provide you with the necessary support to ensure the success and sustainability of this important collaborative effort in the near future.

Finally, I wish you all the best and every success in your future challenges. May you have a safe journey back home. With that Ladies and Gentlemen, I now declare the Regional Training Workshop closed. Thank you very much.