



**The 6<sup>th</sup> Regional Scientific and Technical Committee Meeting**  
**For the SEAFDEC/UNEP/GEF Project on Establishment and Operation of**  
**a Regional System of Fisheries *Refugia* in the South China Sea and the Gulf of Thailand**

4-6 July 2022

SEAFDEC/Training Department, Samutprakarn, Thailand

**Regional Training Workshop on Laval Fish Identification**  
**Phase I: Larval Fish Identification**  
 15-27 Nov 2022, SEAFDEC Training Department

**PROGRAM AND SYLLABUS**

Date/Time	Training Activity/Topic	Resource Person
<b>15 Nov. 22 - Tuesday</b>		
	Participants arrive at SEAFDEC Training Department, Samut Prakan, Thailand	SEAFDEC Personnel
<b>16 Nov. 22 - Wednesday</b>		
0830-0900	Registration	SEAFDEC & SEAFDEC-Refugia
0900-0920	Opening ceremony & group photo	SEAFDEC & SEAFDEC-Refugia
0920-0940	Refreshment	SEAFDEC Personnel
0940-1000	Brief on schedule and anticipated output	SEAFDEC Personnel
1000-1200	Country report on the implementing plan of the fisheries resources refugia project (20 minutes each countries)	Participants (Cambodia, Indonesia, Malaysia, Philippines, Thailand and Vietnam)
1200-1330	Lunch break	SEAFDEC Personnel
1330-1500	Keynote Address: Early life history studies of the subtropical marine fishes in Okinawa, Japan (tentative)	Prof. Dr. Katsunori Tachihara (University of the Ryukyus)
1500-1520		
1520-1600	Case Study 2: Distributions and transportation of jack mackerel ( <i>Trachurus japonicus</i> ) larvae and juveniles in the East China Sea	Dr. Yoshinobu Konishi (former, Seikai National Fisheries Research Institute, Japan)
1600-1700	Case Study 3: Utilization of DNA barcodes for the identification of tropical larval fishes in Klang Strait, Straits of Malacca (tentative)	Dr. Cecillia Chu (University of Malaya)

1700-1800	Practical: DNA barcode collecting and preserving technique	Dr. Cecillia Chu (University of Malaya)
1830-2200	Welcome Dinner	SEAFDEC Personnel
<b>17 Nov. 22 - Thursday</b>		
0900-1000	Lecture: Review on morphological development of larval fish characters	Yoshinobu Konishi
1030-1200	Lecture: Identification methods of the Scombridae larvae and juveniles in the Southeast Asian region	Yoshinobu Konishi
1200-1330	Lunch break	SEAFDEC Personnel
1330-1700	Practice: Species identification and morphological description of the Scombridae larvae and juveniles - 1	Instructor Team
<b>18 Nov. 22 - Friday</b>		
0900-1200	Practice: Species identification and morphological description of the Scombridae larvae and juveniles - 2	Instructor Team
1200-1330	Lunch break	SEAFDEC Personnel
1330-1700	Practice: Species identification and morphological description of the Scombridae larvae and juveniles - 3	Instructor Team
<b>19 Nov. 22 - Saturday</b>		
0900-1000	Lecture: Identification methods of the Carangidae larvae in the Southeast Asian region	Yoshinobu Konishi
1030-1200	Practice: Species identification and morphological description of the Carangidae larvae - 1	Instructor Team
1200-1330	Lunch break	SEAFDEC Personnel
1330-1700	Practice: Species identification and morphological description of the Carangidae larvae - 2	Instructor Team
<b>20 Nov. 22 - Sunday</b>		
	Rest Day	
<b>21 Nov. 22 - Monday</b>		
0900-1200	Practice: Species identification and morphological description of the Carangidae larvae - 3	Instructor Team
1200-1330	Lunch break	SEAFDEC Personnel
1330-1430	Lecture: Identification methods of the Engraulidae larvae in the Southeast Asian region	Yoshinobu Konishi
1500-1700	Practice: Species identification and morphological description of the Engraulidae larvae - 1	Instructor Team
<b>22 Nov. 22 - Tuesday</b>		
900-1200	Practice: Species identification and morphological description of the Engraulidae larvae - 2	Instructor Team
1200-1330	Lunch break	SEAFDEC Personnel
1330-1700	Practice: Species identification and morphological description of the Engraulidae larvae - 3	Instructor Team
<b>23 Nov. 22 - Wednesday</b>		
0900-1200	Presentation of case study on early life history science based on the references for planning of future working subjects in participating countries	Participating countries
1200-1330	Lunch break	SEAFDEC Personnel

1330-1430	Lecture: Identification methods of the Lutjanidae, Siganidae and serranid Epinephelinae larvae in the Southeast Asian region	Yoshinobu Konishi
1430-1700	Practice: Species identification and morphological description of the Lutjanidae, Siganidae and serranid Epinephelinae larvae - 1	Instructor Team
<b>24 Nov. 22 - Thursday</b>		
0900-1200	Practice: Species identification and morphological description of the Lutjanidae, Siganidae and serranid Epinephelinae larvae - 2	Instructor Team
1200-1330	Lunch break	SEAFDEC Personnel
1330-1700	Practice: Species identification and morphological description of the Lutjanidae, Siganidae and serranid Epinephelinae larvae - 3	Instructor Team
<b>25-Nov-22 - Friday</b>		
0900-1200	Practice: Species identification and morphological description of the Lutjanidae, Siganidae and serranid Epinephelinae larvae - 4	Instructor Team
1200-1330	Lunch break	SEAFDEC Personnel
1330-1700	Preparation of presentation on species identification and morphological descriptions of examined larvae and juveniles, and on future working subjects to be planned	Yoshinobu Konishi Rangsan Chayakul Teerapong Duandee
<b>26 Nov. 22 - Saturday</b>		
0900-1200	Presentation on results of species identification and morphological descriptions of examined larvae and juveniles, and on future working subjects to be planned	Yoshinobu Konishi Rangsan Chayakul Teerapong Duandee
1200-1330	Lunch break	SEAFDEC Personnel
1330-1430	Training course evaluation	SEAFDEC-Refugia
1430-1500	Closing for Phase I	
<b>27 Nov. 22 - Sunday</b>		



**The Regional Training Workshop on Laval Fish  
Phase II: Determine spawning and Nursing ground base on survey result<sup>n</sup>  
(Sponsor by Japanese Trust Fund)  
28 Nov - 3 Dec 2022, SEAFDEC Training Department**

**Program and Syllabus**

<b>28 Nov. 22 - Monday</b>		
0900-1200	Principle of GIS and Vector data model	
1200-1330	Lunch break	
1330-1630	work with QGIS opensource software GIS and Map creation	
<b>29 Nov. 22 -</b>		
0900-1200	Raster data model in GIS	
1200-1330	Lunch break	

1330-1630	work with raster data and simple modelling	
<b>30 Nov. 22 -</b>		
0900-1200	the principle of prediction model	
1200-1330	Lunch break	
1330-1630	work with R statistic free software	
<b>1 Dec. 22</b>		
0900-1200	Introduction to Maxent plugin	
1200-1330	Lunch break	
1330-1630	Work with dummy data that SEAFDEC/TD prepared	
<b>2 Dec 22 - Saturday</b>		
0900-1200	Introduction of ageing analysis using otolith	
1200-1330	Lunch break	
1330-1630	cutting otolith of larvae sample (using grouper larvae sample from aquaculture,)	
<b>3 Dec. 22 - Saturday</b>		
0900-1200	Counting ring age using Image-J program	
1200-1330	Lunch break	
1330-1630	Back calculation to spawning ground using age data and current data	
1630-1700	Training course evaluation	
1700-1730	Closing for Phase I	
1830-2030	Farewell party	

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