



**The 4th Regional Scientific and Technical Committee Meeting for
the SEAFDEC/UN Environment/GEF Project on Establishment and Operation of
a Regional System of Fisheries *Refugia* in the South China Sea and the Gulf of Thailand**

22 July 2021 (08:30 – 12:00 am, UTC+7)

Zoom platform

<https://us02web.zoom.us/j/81838543705?pwd=d1pzZTBxTjMreWZlVWJpSXlQZz09>

**The Third Regional Training Workshop on
Larval Fish Identification and Fish Early Life History Science
(Advanced Course: Key to Species)**

Executive Summary

Due to the lack of scientists on fish larval identification and fish early life history science, SEAFDEC, in collaboration with GEF/UNEP project "Reversing Environment Degradation Trends in the SCS and GoT" in 2007, organized the Regional Training Course on the subject. This matter was raised again at the Regional Scientific and Technical Committee Meeting with the high demand for training on fish larvae identification to support the activities of the SEAFDEC/UNEP/GEF Project on establishment and operation of a regional system of fisheries refugia in the SCS and GoT. In collaboration with the SEAFDEC Training Department, the advanced course to enhance the scientist's keying and identification of species was developed in 2019 (see Annex 1). The PCU proposed the Regional Training Workshop on Larval Fish Identification and Fish Early Life History Science based at the 3rd RSTC in Viet Nam, which expects to conduct the training course in 2020. In response to capacity-building requirements on fish larvae identification, the PCU prepares \$10.5K to support the larval fish identification activities. However, the covid-19 pandemic has seriously impacted traveling across countries from early 2020 until the present. The PCU considers that it is a low possibility to succeed in conducting the training workshop in 2021.

The SEAFDEC/PCU, therefore, wants to consult with the committee on modification of the allocated budget to produce the publications related to Larval Fish Identification and Fish Early Life History Science guidebook or other related activities that should be useful to SEAFDEC Member Countries.

ACTIONS BY THE RSTC4:

- ❖ Take notes and endorse the request from SEAFDEC/PCU to spend the allocated budget to produce the publications/guidebooks related to Larval Fish Identification and Fish Early Life History Science.
- ❖ To provide comments and suggestion on the way forward on the above subject.

Annex 1: Program and Syllabus

Date/Time	Training Activity/Topic	Resource Person	Note
Day 1 - Sunday			
	Participants arrive at SEAFDEC Training Department, Samut Prakan, Thailand	SEAFDEC Personnel	
Day 2 - Monday			
0900-1000	Opening ceremony & group photo	SEAFDEC & SEAFDEC-UNEP project	
1000-1020	Refreshment	SEAFDEC Personnel	
1020-1040	Brief on schedule and anticipated output	SEAFDEC Personnel	
1040-1200	Country report on the implementing plan of the fisheries resources refugia project	Participants (Cambodia, Philippines, Thailand and Vietnam)	(a)
1200-1330	Lunch break	SEAFDEC Personnel	
1330-1430	Lecture: Review on morphological development of larval fish characters	Yoshinobu Konishi	(b)
1500-1700	Lecture & Practice: Method for calculation of abundance of fish larvae collected by net sampling	Yoshinobu Konishi and SEAFDEC Personnel	
Day 3 - Tuesday			
0900-1000	Lecture: Identification methods of the Scombridae larvae and juveniles in the Southeast Asian region	Yoshinobu Konishi	©
1030-1200	Practice: Species identification and morphological description of the Scombridae larvae and juveniles - 1	Instructor Team	
1200-1330	Lunch break	SEAFDEC Personnel	
1330-1700	Practice: Species identification and morphological description of the Scombridae larvae and juveniles - 2	Instructor Team	(d)
Day 4 - Wednesday			
0900-1200	Practice: Species identification and morphological description of the Scombridae larvae and juveniles - 3	Instructor Team	(e)
1200-1330	Lunch break	SEAFDEC Personnel	
1330-1430	Lecture: Identification methods of the Carangidae larvae in the Southeast Asian region	Yoshinobu Konishi	
1500-1700	Practice: Species identification and morphological description of the Carangidae larvae - 1	Instructor Team	
Day 5 - Thursday			
0900-1200	Practice: Species identification and morphological description of the Carangidae larvae - 2	Instructor Team	(f)
1200-1330	Lunch break	SEAFDEC Personnel	
1330-1700	Practice: Species identification and morphological description of the Carangidae larvae - 3	Instructor Team	
Day 6 - Friday			
0900-1000	Lecture: Identification methods of the Engraulidae larvae in the Southeast Asian region	Yoshinobu Konishi	
1030-1200	Practice: Species identification and morphological description of the Engraulidae larvae - 1	Instructor Team	
1200-1330	Lunch break	SEAFDEC Personnel	

1330-1700	Practice: Species identification and morphological description of the Engraulidae larvae - 2	Instructor Team	
Day 7 - Saturday			
	Rest Day		
Day 8 - Sunday			
0900-1200	Practice: Species identification and morphological description of the Engraulidae larvae - 3	Instructor Team	
1200-1330	Lunch break	SEAFDEC Personnel	
1330-1700	Presentation of case study on early life history science based on the references for planning of future working subjects in participating countries	Participants (Cambodia, Philippines, Thailand and Vietnam)	
Day 9 - Monday			
0900-1200	Lecture: Identification methods of the Lutjanidae, Siganidae and serranid Epinephelinae larvae in the Southeast Asian region	Yoshinobu Konishi	
1200-1330	Lunch break	SEAFDEC Personnel	
1330-1700	Practice: Species identification and morphological description of the Lutjanidae, Siganidae and serranid Epinephelinae larvae - 1	Instructor Team	
Day 10 - Tuesday			
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	
Day 11 - Wednesday			
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	
Day 12- Thursday			
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	Closing ceremony	SEAFDEC Personnel	
1800-2200	Farewell Dinner	SEAFDEC Personnel	
Day 13- Friday			
	Participants leave SEAFDEC/TD for Home Countries	SEAFDEC Personnel	

Notes:

- a) including an explanation of larval fish samples brought from participating countries for this course
- b) 0. Morphological characters, 1. Body shape (BD, HD, Preanal length), 2. Fin formation (two D-fin shape, delayed form of 3rd anal spine, precocious pelvic fin), 3. Sequence of fin formation, 4. Pigment, 5. Head spines
- c) Mainly Identification key to genus (species) for the scombrid juvenile fishes (making a flow chart of the procedure)
- d) Larvae: comparison with the other scombrid and similar family larvae (numbers of specimen and size range of each species to be provided to the workshop from the participating countries should informed in advance)
- e) Juveniles: distinguish from other scombrids by meristic characters (Auxis vs Euthynnus- an idea & trial of measurement method: horizontal distance between 1st and 10th spine of first dorsal fin/horizontal distance between origins of 1st and 2nd dorsal fin) "
- f) Hand-on work to count a total number of vertebrae with fresh specimen (and fixed Auxis juvenile)
- g) Larvae: abundant resources species - Decapterus spp., Selar crmenophthalmus(S. boops), Selaroides leptolepi; stail unknown species - Megalapsis cordyala