

Chapter 5

Conclusion

Identification

Fish larvae of 38 Families were diagnosed in this study. The dominant groups were the Families Gobiidae, Engraulidae, Bregmacerotidae, Leiognathidae, Nemipteridae, Clupeidae and Callionymidae, respectively. Characteristics of the 73 larvae representing the 38 Families were described with illustrations. Only 29 larvae of 16 Families were identified to genus or species levels. Those were the larvae of the Families Synodontidae, Bregmacerotidae, Bothidae, Cynoglossidae, Syngnathidae, Sphyraenidae, Scombridae, Carangidae, Menidae, Priacanthidae, Nemipteridae, Theraponidae, Mullidae, Sillaginidae, Siganidae and Champsodontidae.

Abundance and Distribution

The abundance means of larval fishes in each month were 39,529.43 larvae in 1000 m³ sea water, and 36,306.65 eggs in 1000 m³ sea water. The total eggs and larvae were highly abundant during the NE-monsoon period especially in February and April but less abundance occurred during the SW-monsoon in August. Abundance of the fish in each station and month was statistically different, that was found to be more abundant in the inner zone than the outer. Larval fishes were widely distributed in the inner and outer zones during the NE-



monsoon period. However, the less distribution occurred during the SW-monsoon particularly in the inner zone in August. Larvae of the Families Gobiidae, Leiognathidae and Callionymidae were more abundant in the inner zone than the outer, but the Clupeidae was more abundant in the outer zone. Larvae of the Families Engraulidae, Bregmacerotidae and Nemipteridae were generally distributed around the Islands.

Environmental Factors and Correlation

The means temperature, salinity and dissolved oxygen fluctuated between 28.86-31.64°C., 28.59-32.27 ppt. and 7.19-7.59 mg/l., respectively. Larval fishes were abundant during the NE-monsoon period, when the temperature was 28.86-29.64°C., salinity was 30.72-32.27 ppt., and dissolved oxygen was 7.40-7.54 mg/l. The abundance and distribution were decreased during the SW-monsoon and second intermonsoon periods, when higher temperature (29.07-31.64°C.), lower salinity (28.59-29.01 ppt.) and lower dissolved oxygen (7.25-7.42 mg/l.). Statistically, the salinity was the only factor affecting the occurrence of fish larvae particularly in the inner zone.

Recommendation

1. The Chang Islands are naturally productive area for spawning and nursing the larval fishes. They also provide various ecosystems, such as the mangroves and corals. It should be valuable to protect them by the proclamation of non-fishing period.

2. Study on fish larvae of the Chang Islands should be carried on in parallel to the environmental quality check, in order to ensure the prosperity of the Islands and to protect the spawning grounds from being polluted.

3. In Thailand, the knowledge of fish larvae identification is still limited. Most of fish eggs and larvae cannot be identified to species. It should be the time studying the early developing larvae in laboratory in order to provide more documents for identifying the field specimens particularly the economic species.

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