Identification and density determination of Juvenile fishes in Khuzestan coastal waters

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Abstract

Aquatic animals possess specific biological characteristics and lifecycle. Without knowing about their biology and complete lifecycle, planning about their conservation cannot be effective. Following the previous studies on fish larvae in Khuzestan coastal waters this study was done to determination catch composition and density of juvenile fishes in Khuzestan coastal waters during 2007 to 2008. Studied area included two main fisheries ground, Lifeh-Busafe in west and Bahrekan in east coasts. Monthly random sampling was carried out by using shrimp trawl net with Akhtar vessel. Juvenile fish's means the fishes that completed their larval cycle and are look like their parents but have not been matured yet. The catch mean, biomass, CPUA and the stock size of different species were estimated by using Swept Area Method. Totally 101485 caught fishes included 38 families and 63 species. The most abundant trawled fishes were Thryssa vitriostris ،Leiognathus bindus ،Ilisha melastoma ، Penahia macrophthalmus and Johnius belangerii .These five species contain about 80 %, the species Arius dussumieri and Cynoglossus arel 4.5% and 3.2 % respectively and the others 12% of total caught fishes. In the east coasts the species L. bindus ،I. melastoma ،T. vitriostris ،P. macrophthalmus and in the west coasts the species P. macrophthalmus ،T. vitriostris ،J. belangerii and I.melastoma were the most abundant. Among 63 identified fish species , juvenile fishes of 23 species were observed which contain 26.4 % of total caught fishes .the fishes Arius dussumieri and Acantopagrus latus 100%, Liza subviridis, Leiognathus lineolatus and Triacantuhus biaculeatus more than 80 % and Pomadasys stridens ،Lagocephalus inermis ،Saurida tumbil and Thryssa vitrirostris more than 50 % were observed as juvenile stage. The most abundant juvenile fishes were T. vitrirostris ،L. bindus and Arius dussumieri respectively. The maximum (1852 kg/km2) and the minimum (165 kg/km2) values of CPUA were estimated in west coasts in July and December respectively. The maximum (2677 kg/km2) and the minimum (153 kg/km2) values of CPUA were estimated in east coasts in June and August respectively. The biomass showed a distinct peak in June and July in east and west coasts respectively. The highest diversity index in east (2/22) and west (2.36) coasts were obtained in July. In present study the number of identified fishes is more than previous studies. Juvenile fishes spend their sensitive period of lifecycle in Khuzestan coastal waters. After growing in late spring, fish larvae enter to the juvenile stage and select this productive area as nursery ground. Increasing of juvenile fishes in July is accordance with their reproduction season in studied area. The east coasts are deeper than the west and there are some differences in hydrological characteristics due to discharging of the rivers Bahmanshir and Arvandrood in west coasts. The peaks of abundance in east and west coasts were observed with a clear time interval. The higher CPUA in east coasts can be caused due to gradual migration of juvenile fishes from west to east during cold season.

Key words: Juvenile fishes, Bottom trawl, Catch composition, Biomass, Khuzestan coastal waters