



Session 02

Seasonal distribution of fish eggs and larvae along the Senegal-Gambia marine area

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Abstract

The study of the distribution of eggs and fish larvae between cold (May end of upwelling season) and warm (November beginning of upwelling season) seasons along the Senegal-Gambia maritime zone was carried out using ichthyoplankton data. The data were collected between 0 and 50m depth using a multinet of 80 µm mesh during ecosystem cruises aboard the Norwegian vessel Fridtjof Nansen in November 2011 and May 2012. The sampling scheme consisted in oblique tow, and covered the continental shelf of Senegal-Gambia area. In laboratory, 36 samples were analyzed and the fish eggs and larvae were identified by microscopy to the family and counted, using appropriate identification keys. Analysis of eggs abundance shows dominance of Sparidae with 14% and low abundance of Myctophidae (4%) and Clupeidae (3%) during the warm season (November). Conversely, Myctophidae eggs were dominant in the cold season (May (45%)) followed by Carangidae (34%). Fish larvae were dominated by the Clupeidae (52%), followed by the Myctophidae (19%) in warm season (November). In May (cold season), the larvae of these two families were still dominant, but with higher proportions for Myctophidae (29%) and lower for Clupeidae (23%); Sparidae larvae were also fairly well represented (19%). At the spatial level, during the warm season, an area of high eggs concentration was founded between the south of the Cap-Vert Peninsula and the Gambia. During the cold season, two areas of high concentrations were observed, located off Kayar and off the mouth of the Casamance River, respectively. On one hand, an area of high larval concentration was identified at the mouth of the Casamance River in November. On the other hand, during the



cold season, high concentrations were noted off the entire study area, with higher concentration off the Cap-Vert peninsula. The study allowed, within its limits, the spatial and temporal location of critical habitats, where environmental conditions are more favorable to the retention of eggs and larvae as well as for their feeding. Such results are of relevant interest for conservation of resources and fisheries management.

Keywords: Seasonal distribution, Ichthyoplankton, Upwelling, Marine area, Senegal, Gambia



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