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Composition and cross-shelf distribution of ichthyoplankton in the Tropical Southwestern Atlantic

E.M.T. Mota, T.M. Garcia, J.E.P. Freitas, M.O. Soares

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1 **Composition and cross-shelf distribution of ichthyoplankton in the Tropical Southwestern**  
2 **Atlantic**

3 Mota, E. M. T.\*<sup>a</sup>; Garcia, T. M.<sup>a</sup>; Freitas, J.E.P<sup>a</sup>; Soares, M. O.<sup>a, b</sup>

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5 a. Instituto de Ciências do Mar (LABOMAR), Universidade Federal do Ceará,  
6 60165-081, Fortaleza, CE, Brazil.

7 b. Institut de Ciència i Tecnologia Ambientals (ICTA), Universitat Autònoma de  
8 Barcelona, 08193, Barcelona, Spain.

9  
10 **Abstract**

11 The spatial distribution, abundance, and composition of ichthyoplankton are key  
12 ecological features for the conservation of biodiversity and sustainability of fisheries.  
13 Despite their importance, knowledge about these features in the equatorial waters of the  
14 planet is still scarce. The aim of this study was to assess these features in the Tropical  
15 Southwestern Atlantic (northeastern Brazil). Two oceanographic cruises were carried  
16 out (2010) on the continental shelf. The collections were performed at 54 stations  
17 distributed in three coast parallel profiles covering a wide geographical area (20,100  
18 km<sup>2</sup>). A total of 3723 fish larvae and 3829 fish eggs were sampled. Larval identification  
19 resulted in 15 taxa belonging to 13 families. Eggs of family Engraulidae were the most  
20 abundant and represented 40.8% of the total eggs. The largest concentration of fish  
21 larvae and eggs was found on the outer shelf, because of the mixture of coastal and  
22 oceanic species. On the continental shelf, the abundance of fish larvae was higher near  
23 the marine protected area, mesophotic reefs and large tropical mangrove ecosystems.  
24 The present results provide a baseline assessment of a poorly studied region of the  
25 planet along a coast with high turbidity, and sea surface temperatures. Moreover, the  
26 results highlight the need for rigorous monitoring to detect shifts in diversity and  
27 abundance of ichthyoplankton on a continental shelf with a large number of rich tropical  
28 ecosystems.

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30 **Key words:** Fish eggs, fish larvae, tropical semiarid coast, South Atlantic

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32 Corresponding author: [erikatarg@yahoo.com.br](mailto:erikatarg@yahoo.com.br). Telephone: +558533667010.

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