

Session 4

Hydrographic control on larval fish assemblages: Lessons from the Canary Current Ecosystem

Maik TIEDEMANN^{1,2,6,*}, Heino FOCK¹, Patrice BREHMER², Julian DÖRING³, Gregor BÖRNER⁴,
Shawn DOVE⁵, Werner EKAU³, and Christian MÖLLMANN⁶

¹Thünen-Institute (TI), Institute of Sea Fisheries, Federal Research Institute for Rural Areas, Forestry and Fisheries, Palmaille 9, 22767 Hamburg, Germany

²Institut de recherche pour le développement (IRD), UMR Lemar, Campus Ifremer, Délégation régionale IRD ouest France, 29280, Plouzané, France

³Leibniz Centre for Tropical Marine Research (ZMT), Fahrenheitstraße 6, 28359 Bremen, Germany

⁴Humboldt University, Albrecht Daniel Thaer-Institute of Agricultural and Horticultural Sciences, 12587 Berlin, Germany

⁵GEOMAR, Helmholtz Centre for Ocean Research Kiel, Düsternbrooker Weg 20, 24105 Kiel, German

⁶Institute for Hydrobiology and Fisheries Science, Center for Earth System Research and Sustainability (CEN), Klima Campus, University of Hamburg, Grosse Elbstrasse 133, D-22767 Hamburg, Germany

*Correspondance: Tél: (+ 49) 531 596 1099; Courriel: tiedemann.maik@gmail.com (M. TIEDEMANN)

Reçu le 01/04/2018; publié le 15/06/2019

Abstract

Fronts, eddies, and upwelling shape larval fish habitats in the Canary Current Ecosystem. In the last five years, five sea-going expeditions have been undertaken to investigate the influence of these ocean processes on the life of fishes and their early life stages. The use of different sampling techniques (*e.g.* midi/maxi multinet, GULF VII, and CTD) allowed us to understand horizontal and vertical larval fish distribution patterns. Frontal zones that function as natural barrier for plankton drift were identified enabling the formation of spatially segregated larval fish assemblages. Mesoscale eddies compensated an offshore drift of water masses during the upwelling process retaining fish larvae at the shelf break. An upwelling intensity driven spatio-temporal niche partitioning was observed between larval round sardinella (*Sardinella aurita*) and larval European sardine (*Sardina pilchardus*). While climate models predict a change of the upwelling intensity in upwelling ecosystems, we suggest that dominance relationships of small pelagic fishes will fluctuate according to upwelling intensity variation. The results of our studies improve the understanding of how fishes avail the dominant physical features in upwelling ecosystems and aid to comprehend population dynamics.



Commission Sous-Régionale des Pêches
Sub-Regional Fisheries Commission



International Conference ICAWA 2017 & 2018 Extended book of Abstract

THE AWA PROJECT
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of fisheries and the
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ISBN: 978-2-9553602-0-6



Bundesministerium
für Bildung
und Forschung



Trilateral German-French-African research initiative

Edited by

Patrice BREHMER (IRD, France)

Technical support: Ndague DIOGOUL (IRD, Sénégal), Cordula Zenk (Geomar, Germany) and Mahaut de Vareilles (UiB, Norway)

With the collaboration of

Noel Keenlyside (Norway), Jorge M. NASCIMENTO (CABO VERDE), Vito Melo RAMOS (CABO VERDE), Bamol Ali SOW (SENEGAL), Heino FOCK (GERMANY), Joern SCHMIDT (GERMANY), Werner EKAU (GERMANY), Adama MBAYE (SENEGAL), Assane FALL (MAURITANIA), Ivanice MONTEIRO (CABO VERDE), Aka Marcel KOUASSI (IVORY COAST), Osvaldina SILVA (CABO VERDE), Timothée BROCHIER (FRANCE), Moussa SALL (SENEGAL), Mohamed MAYIF (MAURITANIA), Vamara KONÉ (IVORY COAST), Thomas GORGUES (FRANCE), Carlos FERREIRA SANTOS (CABO VERDE), Idrissa Lamine BAMY (GUINEA), Iça Barry (GUINEA BISSAU), Momodou Sidibe (THE GAMBIA), Hamet Diaw DIADHIOU (SENEGAL)

ISBN: 978-2-9553602-0-6

Cover design: AWA (BMBF – IRD) project

Logo and flyers: Laurent CORSINI (IRD)

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**International PREFACE International
Conference on Ocean, Climate and
Ecosystems joint with ICAWA 5th, edition
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**Session 4: «Climate prediction Marine
ecosystems, fisheries management and
climate change». Thursday 19th April
2018**

Oral presentation