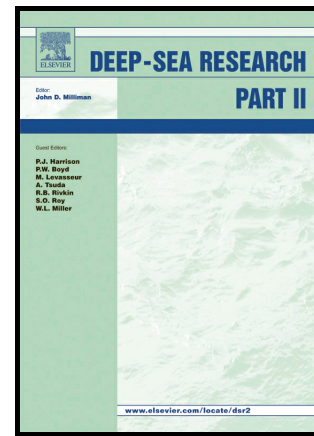


Author's Accepted Manuscript

Energy transfer in the Congo deep-sea fan: from terrestrially-derived organic matter to chemosynthetic food webs

A.M. Pruski, C. Decker, E. Stetten, G. Vétion, P. Martinez, K. Charlier, C. Senyarich, K. Olu



www.elsevier.com/locate/dsr2

PII: S0967-0645(17)30186-8
DOI: <http://dx.doi.org/10.1016/j.dsr2.2017.05.011>
Reference: DSR114254

To appear in: *Deep-Sea Research Part II*

Cite this article as: A.M. Pruski, C. Decker, E. Stetten, G. Vétion, P. Martinez, K. Charlier, C. Senyarich and K. Olu, Energy transfer in the Congo deep-sea fan from terrestrially-derived organic matter to chemosynthetic food webs, *Deep-Sea Research Part II*, <http://dx.doi.org/10.1016/j.dsr2.2017.05.011>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting galley proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Energy transfer in the Congo deep-sea fan: from terrestrially-derived organic matter to chemosynthetic food webs

Pruski A. M.^{1*1}, Decker C.², Stetten E.^{1,3}, Vétion G.¹, Martinez P.⁴, Charlier K.⁵, Senyarch C.¹, Olu K.²

1- Sorbonne Universités, UPMC Univ Paris 06, CNRS, Laboratoire d'Ecogéochimie des Environnements Benthiques (LECOB), Observatoire Océanologique, F-66650, Banyuls/Mer, France

2- IFREMER Centre Bretagne, Laboratoire Environnement Profond, (REM-EEP-LEP), 29280 Plouzané, France

3- Sorbonne Universités, UPMC Univ Paris 06, UMR 7193, IStEP, F-75005, Paris, France

4- Université de Bordeaux, CNRS, EPHE, Environnements et Paléoenvironnements Océaniques et Continentaux (EPOC), UMR 5805, Allée Geoffroy St. Hilaire, 33615 Pessac Cedex, France

*Corresponding author. Tel.: +00 33 4 68 88 73 79; fax: 00 33 4 68 88 73 95. audrey.pruski@obs-banyuls.fr

Abstract

Large amounts of recent terrestrial organic matter (OM) from the African continent are delivered to the abyssal plain by turbidity currents and accumulate in the Congo deep-sea fan. In the recent lobe complex, large clusters of vesicomyid bivalves are found all along the active channel in areas of reduced sediment. These soft-sediment communities resemble those fuelled by chemoautotrophy in cold-seep settings. The aim of this study was to elucidate feeding strategies in these macrofaunal assemblages as part of a greater effort to understand the link between the inputs of terrestrially-derived OM and the chemosynthetic habitats. The biochemical composition of the sedimentary OM was first analysed in order to evaluate how nutritious the available particulate OM is for the benthic macrofauna. The terrestrial OM is already degraded when it reaches the final depositional area. However, high biopolymeric carbon contents (proteins, carbohydrates and lipids) are found in the channel of the recent lobe complex. In addition, about one to two thirds of the nitrogen can be

¹ Permanent address: Université Pierre et Marie Curie, Observatoire Océanologique de Banyuls, 1 Avenue Pierre Fabre, 66650 Banyuls sur mer, France

Download English Version:

<https://daneshyari.com/en/article/5764809>

Download Persian Version:

<https://daneshyari.com/article/5764809>

[Daneshyari.com](https://daneshyari.com)