

Accepted Manuscript

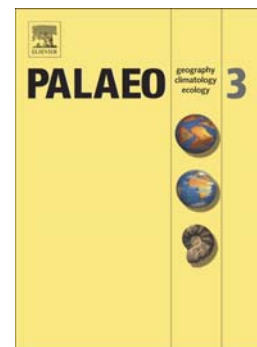
Bulk-carbonate and belemnite carbon-isotope records across the Pliensbachian-Toarcian boundary on the northern margin of Gondwana (Issouka, Middle Atlas, Morocco)

Fatima-Zahra Ait-Itto, Gregory D Price, Abdellah Ait Addi, Driss Chafiki, Imane Mannani

PII: S0031-0182(16)30347-9
DOI: doi: [10.1016/j.palaeo.2016.11.014](https://doi.org/10.1016/j.palaeo.2016.11.014)
Reference: PALAEO 8049

To appear in: *Palaeogeography, Palaeoclimatology, Palaeoecology*

Received date: 17 August 2016
Revised date: 1 November 2016
Accepted date: 3 November 2016



Please cite this article as: Ait-Itto, Fatima-Zahra, Price, Gregory D, Addi, Abdellah Ait, Chafiki, Driss, Mannani, Imane, Bulk-carbonate and belemnite carbon-isotope records across the Pliensbachian-Toarcian boundary on the northern margin of Gondwana (Issouka, Middle Atlas, Morocco), *Palaeogeography, Palaeoclimatology, Palaeoecology* (2016), doi: [10.1016/j.palaeo.2016.11.014](https://doi.org/10.1016/j.palaeo.2016.11.014)

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 proof before it is published in its final 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.

Bulk-carbonate and belemnite carbon-isotope records across the Pliensbachian-Toarcian boundary on the northern margin of Gondwana (Issouka, Middle Atlas, Morocco)

Ait-Itto Fatima-Zahra^a, Price Gregory D^b, Ait Addi Abdellah^a, Chafiki Driss^a, Mannani Imane^a

^a*Cadi Ayyad University, Faculty of Sciences and Techniques, Geosciences and Environmental research's Laboratory, P.O. Box 549, Marrakech-Morocco.*

^b*School of Geography, Earth and Environmental Sciences Plymouth University, Plymouth, Devon, PL4 8AA, UK*

ABSTRACT

The data presented here provide the first high-resolution investigation of carbon isotope and geochemical analyses derived from the Pliensbachian-Toarcian boundary, of Issouka, Middle Atlas, Morocco. The isotope data recorded in micrite reveal a stepwise negative carbon isotope excursion with values dropping to -1.8‰ within the Polymorphum Zone. This excursion coincides with major marine biological changes and extinctions and corresponds with European records, supporting the assertion that the excursion was global in extent. The Issouka section is relatively expanded compared to other well-studied sections in Europe. The excursion at the Pliensbachian-Toarcian boundary also shows several similarities with the negative Early Toarcian event. In contrast, carbon isotope values derived from coeval belemnites show positive values. The belemnite $\delta^{13}\text{C}$ data presented here suggest spatial heterogeneity in the carbon isotopic composition of dissolved inorganic carbon (DIC) in the Early Jurassic ocean. Overturning or

Download English Version:

<https://daneshyari.com/en/article/5756024>

Download Persian Version:

<https://daneshyari.com/article/5756024>

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