

***Interactive comment on “Rapid climatic variability  
in the west Mediterranean during the last 25 000  
years from high resolution pollen data” by  
N. Combourieu Nebout et al.***

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Received and published: 14 May 2009

**General comments**

This manuscript presents the main curves of the Lateglacial-Holocene pollen diagram of ODP 976 core, with a quantification of the climatic parameters. Overall it is well presented and new.

Pages 9 and 10: I have difficulties to see why the LGM is warmer and more humid than the zones below and afterwards, not only pz2b but also pz2a. This should be further commented, especially is the chronology totally correct? Page 9: you should comment on the huge amounts of Cichorioideae pollen. Also are you dealing with the LGM or

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the late pleniglacial? Are these two terms identical? See text and figures.

The conclusion should also contain something on the period before the Bølling-Allerød.

The manuscript will benefit from being read by a native English speaker.

Detailed comments

Abstract page 2, line16: spell out SST at first use

Section 2, page 4, line 7: very 'very close' by a precise distance Add accents on family names: Quézel, Carrión, Peñalba, Sánchez Goñi, Avoid italics for family names, as well as for sclerophyllous, deciduous, But put foraminifera name sin italics.

Section 3.1, Page 5, line 20: when used for the first time spell out 'cal': 'calibrated'. Precise here that from now on, all ages will be calibrated, so you do not need to add cal everywhere. However on figures indicate cal everywhere, eg fig.2, and 5.

Section 4, page 8, line 9: such sediments: please precise what is 'such'. Line 12: what was correlated? This is very vague. Maybe it is better to add this information in the discussion.

Sections 4.1 onwards, why not using the pollen zone sin the text? It makes it easier to link with the figures!

Page 9, Line 2: why is pollen zone 1 starting at 25000 years ago, when it obviously starts earlier on fig.2.

I would split section 4.1 into Heinrich 2 and Late Pleniglacial, as done on fig.2.

Page 14, section 4.4, line 1: explain what you mean by efficient, be more precise. The same for peculiar on line 3.

Section 4.5, lines 22-23: the freshwater algae are missing from the diagram of fig. 2.

Page 16 (Holocene): from your quantification provide the amount of changes for the temperature and the precipitation during the events. It will help us put these events in

the context of global warming you use at the very beginning of your manuscript.

Page 21: the reference Hooghiemstra et al 2006 appears twice.

There are many small typos in the reference list.

Table 2: what are the 'Mpol': have they been explained anywhere?

Table 3: add call to reference for the columns with the Gulf of Cadix and the Tyrrhenian Sea.

For fig 2, 3, 4 and 5, we need to have a common point for the vertical axes. So the 4 figures can be compared. Perhaps you could add the pollen zones on the 4 figures.

Fig. 5: For each site, the base of the long rectangles surrounding all the events should be the base of the cores, show where the cores stop if they stop before 15 ka.

Recommendation

Accept with minor revisions

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Interactive comment on Clim. Past Discuss., 5, 671, 2009.

CPD

5, C206–C208, 2009

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