

Interactive comment on “Millennial-scale climatic variability between 340 000 and 270 000 years ago in SW Europe: evidence from a NW Iberian margin pollen sequence” by S. Desprat et al.

L. Dupont (Referee)

dupont@uni-bremen.de

Received and published: 4 April 2008

GENERAL COMMENTS.

The contribution is a well written paper about a good study concerning the Iberian Peninsular vegetation development in its climatic context during a mid-Pleistocene interglacial. It is certainly fitted for publication as CP paper. The authors might contemplate the comments and suggestions below.

SPECIFIC COMMENTS.

Conceptually, I agree with the isotopic stage classification suggested by Tzedakis et

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper



al. (1997) and used in this paper. But it is confusing, that in the latter part of the introduction marine oxygen isotope event numbers and marine isotope stage classification are mixed. For instance, 8.5 is an event and not a stage. 5a is a substage. MIS 8e, however, never has been defined. I suggest a formulation like "the terrestrial equivalent of marine isotope event 8.5". This introduces the problem of comparing stages with events but I think that the lesser evil.

Concerning the classification of MIS 8 and 9, I can't help to note, that we already published in 1989 indications of strong interglacial-like conditions prevailing in NW Africa during Isotope Event 8.5. Based on the pollen record of ODP Site 658, we arrived at an estimate of around 25°N for the latitude of the Sahel-Saharan boundary in the period between 290 and 280 thousand years ago. This amounts to a couple of degrees further northward than during the Holocene. The low temporal resolution of the pollen record precluded any subdivision of MIS 9. Nevertheless, incongruity with the marine stage classification was already obvious at that time. (Dupont et al. in Ruddiman, Sarinthein et al. 1989, Proc. Ocean Drilling Program, Sci. Res. 108, p.97, fig.10).

Page 382. Please call section 4 "Results and interpretation", instead of "Results". The results are given in Table 1 and the text of the section is all about interpretation. The results would be in better perspective if Table 1 denoted not only the zone identification but also age and depth of the zone boundaries as well as the number of samples for each zone. Concerning Table 1, I also suggest leaving out changes in the pine pollen percentages. In its present form the table starts with giving those changes but does not continue commenting the pine pollen curve. The text of Zone M97-9-3 is somewhat garbled.

Page 393. I suggest going into more detail discussing the evidence of the NADW reduction. The proxies used are not common knowledge and rather complicated to interpret. Moreover, the statement that "prominent abrupt SST drops [...] are preceded by decreases in both C26OH and benthic d13C" is not substantiated by the corresponding curves in Figure 4.

[Full Screen / Esc](#)[Printer-friendly Version](#)[Interactive Discussion](#)[Discussion Paper](#)

The paper would gain from a figure illustrating the discussed comparison between climatic changes during MIS 9 and MIS 3.

TECHNICAL CORRECTIONS.

Please define "ubiquist herbs" either in the text or in the caption of Figure 4.

I suggest depicting in Figure 4 the curve of the Mediterranean taxa of MD032697 instead of that of the deciduous oaks.

Figures 3 and 4. Please give the error envelope for the foram-based SST estimates as done in Figure 5.

Page 384, Line 5. Please give values.

Page 388, Line 25-26: "replacement of Ericaceae by Poaceae". As far as I can see in the figure, it is the other way around.

Page 393, Line 14. "SST change" instead of SST changes.

Page 394, Line 5. "is" instead of are.

Page 395, Line 8. "groups" instead of group.

Page 395, Line 11. insert events after warming.

Page 396, Line 22. "on" instead of in.

Page 396, Line 23. "mass" instead of masses.

Page 397, Line 2. "Portuguese" instead of Portugueuse.

Caption of Figure 5. (as shown in Fig. 4) instead of (as shown in Fig. 5)

Interactive comment on Clim. Past Discuss., 4, 375, 2008.

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper

