

Interactive comment on “Aligning MIS5 proxy records from Lake Ohrid (FYROM) with independently dated Mediterranean archives: implications for core chronology” by G. Zanchetta et al.

Anonymous Referee #2

Received and published: 26 February 2016

General comments: The question how the age models for records for the interval preceding, during and after the MIS 5 can be generated is a very interesting topic, particularly for the terrestrial realm. This is a generally well-written manuscript which discusses different approaches for age models for a very important terrestrial site from the central Mediterranean region. I thus think it is worth publishing. What I immediately wondered when reading the manuscript was why there is no comparison with the Tenaghi Philippon record and other important records from the region (e.g. Monticchio) – as I have just seen, reviewer 1 takes a similar view and mentions recent publications

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in this context. Generally, while introduced in the method section, the DEEP site pollen record is then only mentioned once again at the beginning of the “Results and discussion” section and shortly in the conclusions – I think the authors waste potential here (see also remark to conclusions), and I would have expected in the discussion the implications of the new chronology for vegetation development in the Mediterranean region. In the last figure of the manuscript, the authors show how the newly introduced age model shifts the DEEP total inorganic carbon curve and compare this with the ODP-975 SST record (Martrat et al., 2014 using Marino et al., 2015; see below). Such a figure I would have expected for interesting terrestrial proxies from, e.g., Monticchio, Tenaghi Philippon and Lake Ohrid. This is the more important since Sadori et al. (2015) use the medium-resolution pollen record from Wijmstra (1969) for comparison between Lake Ohrid and Tenaghi Philippon, while there are now records in higher resolution available as mentioned by reviewer 1. Concerning language: I am not a native speaker myself, but I am sure that the English could be slightly improved. What I particularly noted is the frequent unnecessary use of the word ‘however’ in the “Results and discussion” section (see below for detailed remarks).

Detailed remarks:

1 Introduction

Page 16982, Lines 2 and following: The whole paragraph is difficult to understand. Of course, one can guess what the authors mean, but it is imprecisely stated. For example, “assumption of synchronicity between marine and terrestrial events”: What is regarded as a marine event? An event restricted to the marine realm, or a signal in a marine proxy (which might be caused by an event taking place in the terrestrial realm!), or an event reflected by a terrestrial proxy transported into the marine realm (sediments, pollen etc.)?

Page 16983, Line 4: “A large literature...” Not sure if this is grammatically correct, though the expression can be found in other publications. Line 19 (and later): The term

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“paper” appears like scientist colloquial language to me. Why not “publication”?

4 Results and discussion

Page 16989, Lines 20 and following; and Page 16991, Lines 2 and following: These are sections where “However...” is used in two subsequent sentences, and I would suggest to avoid phrases like “. . . we have to note. . .”.

Page 16992, Lines 18 and following: Even though I understand that this is not a high-resolution study, I wonder why, if they are discussed, sedimentation rates are not shown in a figure. Same line: It is probably a matter of personal taste, but phrases like “As last point, it is important to remember. . .” waste place and are unnecessary. If it was not important, you would not write it, I guess.

5 Conclusions

Page 16993, Line 11: While AP % has been introduced in the text, I wondered here if it would be better not to use the abbreviation since arboreal pollen are only mentioned in one other section. Since you claim the concomitance with increasing temperatures here, I wonder if you should not show at least another pollen curve for thermophilous species. The AP % curve could as well be tied to an increase in precipitation.

Line 21: “It is important to remark. . .” Again, a matter of personal taste: Would you remark this if it was not important?

Figures: Please increase the size of almost all figures in the final manuscript (perhaps this is just a problem of the upload process?). Apart from the size, I think the figures are generally well-made.

Figure 2: What is used as pollen reference sum? Why is only *Pinus* removed from AP? (In Sadori et al., 2015 it is mentioned that this is due to over-representation of *Pinus*, but if so, should the reasons for over-representation not as well be immanent for *Abies*, *Picea*, and, if occurring, other bisaccate pollen?) Please write “*Pinus*” in italics. (Ironically, I am not sure how to use italics in the comment form...) The abbreviation

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“AP” is not explained in the figure text. Even if this is from already published records: Figures and figure text together should provide all necessary information! (And Sadori et al (2015) is a discussion paper!) I would even consider explaining “TIC” and “TOC” – though I guess everybody interested in the topic knows these abbreviations, it would still be appreciated by readers who do not often work with carbon content.

Figure 3: Change “LC21 planctik” to “LC 21 planktic”; change “Ohird” to “Ohrid”.

Figure 4: Compare general comments.

Interactive comment on Biogeosciences Discuss., 12, 16979, 2015.

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