

Interactive comment on “Bio-chemostratigraphy of the Barremian–Aptian shallow-water carbonates of the southern Apennines (Italy): pinpointing the OAE1a in a Tethyan carbonate platform” by M. Di Lucia et al.

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Dear Karl, thanks a lot for your review of our manuscript. We greatly appreciated your comments and your suggestions and we will modify the text accordingly in the revised version. Please find below a comment to all the points made in your review.

- Abstract, Page 790 1, 10, 12 - All these sentences will be rephrased according to your suggestions. Thanks a lot for helping us improving the text.

- Introduction, Page 790 23-24 - Thanks a lot for pointing us these incorrect state-

C378

ments. We agree that “global” does not describe correctly the known distribution of Aptian black shales and that there was one single platform along the northern Tethyan shelf. The sentence will be changed as follow: “The widespread deposition of organic-rich marine sediments, the demise of the northern Tethyan Urgonian platform and a biocalcification crisis. . .”.

To avoid repetitions we will also rephrase as follows the sentences at page 791 6–10: “While the long-lived Urgonian platform was drowned shortly before the onset of the OAE1a (Wissler et al., 2003; Föllmi et al., 2006; Huck et al., 2011), some carbonate platforms in the central and southern Tethys were able to continue growing in shallow water. These resilient platforms preserve the record of palaeoecologic disturbance of tropical neritic ecosystems (Immenhauser et al., 2005; Huck et al., 2010)”.

- Introduction, Page 791 16 - Your observation is absolutely right: when ammonites are present, like in the Vercors and Swiss Alps, they certainly are the solution. Following your suggestion, the sentence will be changed as follows: “Biostratigraphy may not always offer a complete solution either”.

- Introduction, Page 791 20 - Thanks a lot for pointing us this incorrect citation of your work. We will modify this sentence as follows: “The onset of the OAE1a has been dated to the deshayesi ammonite zone (Föllmi et al., 2007)”

- Materials and Methods, Page 794 3 - The term “double-polished” is usually referred to a thin section prepared from a rock slab that has been grinded and polished with 5 μ m-sized alumina powder on both sides. This technique is quite time-consuming but it ensures a better resolution of fine details under the optical microscope.

- Materials and Methods, Page 794 4 - Stable-isotope will be replaced by “stable isotopes”.

- Discussion, Page 806 26 - Thanks a lot for the observation. “Under the hypothesis” is not clear. It will be changed with: “Assuming that the carbon isotope record. . .”.

C379

