

Interactive comment on “Long-term macrobioerosion in the Mediterranean Sea assessed by micro-computed tomography” by C. Färber et al.

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Received and published: 10 February 2016

This is an excellent study, which describes a valuable technique for characterizing and quantifying bioeroding communities in hard substrates. I commend the authors for doing this and have added substantially to the understanding of the colonization of boring communities and the excavations they make in carbonate surfaces. I have the following comments and suggestions:

Experimental design: It is not clear what the original sizes of the experimental blocks were. Surface area of the blocks is said to be 11 x 11 cm or more. Blocks have three dimensions. How were they deployed on the sea floor? The different lithologies of the blocks and variations in their deployment and size likely had significant influences on

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the results (such as the lack of colonization in the 4-year collection but 2 and 3 year blocks were colonized). This is referred to on Page 10, Lines 1-2, but some indication of these variations would be helpful in the methods. On Page 11, Line 26, it is indicated that the blocks came from a previous study by Bromley. Please refer to this in the methods.

Page 3, Line 21: What are “the following called blocks”?

Page 4, Line 3: Blocks were digitally cropped for analysis. Were these the dimensions used to quantify area for rates of bioerosion indicated in Line 14, or was the cut size of the blocks used? The physical cutting and digital cropping does not consider the original surface area on which the bioeroders established. This may not be too important though, since the characterization and volume of borings are the main result, and the bioerosion rates calculated are not critical to the conclusions.

Page 4, Line 24: Were the fragmented blocks the same ones that were also digitally scanned?

Page 8, Line 31: Suggest changing “closely mingle” to “live closely together” or cohabitate, if this is what you mean. Are you suggesting that different sponge species can occupy the same gallery?

Page 10, Line 11: Hutchings et al didn't use image analysis, but quantified erosion on sections cut through experimental blocks and point-counting erosion areas under a microscope.

Page 10, Line 17: Remove the “,” after “This is”

Page 11, Line 30: Does a “stable bioeroding community” establish if the surface of a bored substrate is eroded by grazing or other action? If a surface is eroded by grazing, new uncolonized substrate would be continually exposed. The intensity of this grazing and subsequent exposure could also vary substantially in space and time. Such factors would need to be isolated to conclude what a “stable” community of borers or rate of

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bioerosion looks like.

Table 1: Explain how the three replicates of the 7-year sample were made

Interactive comment on Biogeosciences Discuss., doi:10.5194/bg-2015-653, 2016.