

Interactive comment on “Geochemical and microstructural characterisation of two species of cool-water bivalves (*Fulvia tenuicostata* and *Soletellina biradiata*) from Western Australia” by Liza M. Roger et al.

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Reviewer report 1

We thank Professor Wanamaker for his positive feedback and helpful suggestions. Each recommendation was carefully considered and made accordingly. Point-by-point modifications are described below.

1. p-values: perhaps it might be better to use a threshold of 95% or 99%, instead of such small values like 2.2×10^{-16} . Something like $p < 0.01$ or $p < 0.001$

C1

»The p-values presented in section 3.2. were changed to $p < 0.001$.

2. Figures 10/11- it is hard to see the uncertainty estimates in the elemental ratios. It might be useful to mention in the Figure caption text the uncertainty and that the uncertainty is generally smaller than the symbols

»Uncertainty estimates were added in the caption below Fig.10 and 11.

3. Figure 12 could be improved by putting on 95% confidence intervals for each biplot. And make sure that the text is not covered by data (i.e., Sr/P and Mg/P in the top panel)

»Confidence intervals of 95% and prediction bands were added to the plots on Fig. 12 and the trendline equations were moved away from the data points to avoid overlap.

4. Line 12- ocean quahogs (add Butler et al., 2013)

»Butler et al 2013 was added on line 12 page 3.

5. Line 15- the references for bivalve shell records used in environmental variability are a bit old- I might consider adding a few other references here from work in the last couple of years. For example: Mette, M.J., Wanamaker, A.D., Carroll, M.L., Ambrose, W.G., Retelle, M.J., (2016) Linking large-scale climate variability with Arctic islandica shell growth and geochemistry in northern Norway, *Limnology and Oceanography*, 61(2), 784-764, doi:10.1002/lno.10252. Reynolds, D.J., Scourse, J.D., Halloran, P.R., Nederbragt, A.J., Wanamaker, A.D., Butler, P.G., Richardson, C.A., Heinemeier, J., Eiriksson, J., Knudsen, K.L., Hall, I.R., C2 (2016) Annually resolved North Atlantic marine climate over the last millennium, *Nature Communications*, 7, 13502, doi:10.1038/ncomms13502. Reynolds, D.R., Butler, P.G., Williams, S.M., Richardson, C.A., Scourse, J.D., Wanamaker, A.D., Jr., Austin, W.E.N., Cage, A.G., and Sayer, M., (2013), A multiproxy reconstruction of Hebridean (NW Scotland) spring sea surface temperatures between AD 1805 and 2010, *Palaeogeography, Palaeoclimatology, Palaeoecology*, 386, 275-285, doi:10.1016/j.palaeo.2013.05.029.

»The reference suggested were added on line 15 page 3.

C2

All changes visible in new text supplement

Please also note the supplement to this comment:

<http://www.biogeosciences-discuss.net/bg-2016-343/bg-2016-343-AC1-supplement.pdf>

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