

Authors' response

We thank Jonathan Holmes for the repeated review of our manuscript. We followed his suggestions revised the manuscript carefully. Here we provide the list of changes given point by point.

Page 1

line 7: temperature and composition?

- Changed as suggested

line 18: no comma after both

- Changed as suggested

Page 2

At the start of the introduction: perhaps add something like 'Ostracods are small aquatic crustaceans, which produce shells composed of low-Mg calcite'

- Changed as suggested

line 18: von

- Changed as suggested

Page 8

line 14: there exists

- Changed as suggested

line 15: is it realistic to quote the vital offset to such a high level of precision? Perhaps give the value as about +1 ‰

- Changed as suggested in the whole manuscript (page 8 and 18)

Page 9

lines 10-18: seems strange to mix mg/l and psi

- The given units in this section are separated clearly. Salinity values are given in PSU while all other hydrochemical parameters (TDS, Ions) are given in mg/l (see also table 2). In our opinion there is no need to change the units, as they are common for these parameters.

Page 10

line 13: Omax and Omin look odd- use $\delta^{18}\text{O}_{\text{max}}$ and $\delta^{18}\text{O}_{\text{min}}$ (with delta signs and superscripts of course!)

- Changed as suggested.
- Fig. 3 had to be changed to include the changed notation.

line 25: perhaps range is a better word than variation

- Changed as suggested

line 30: it is about 0.2‰ - the relationship is not perfectly linear

- Changed as suggested

Page 11

line 22-23: this statement needed to come earlier in the MS

- The sentence was shifted to chapter 3.4 Calculation of calcification periods (c)

Page 13

line 9: lower ionic concentration?

- Changed as suggested

Page 17

line 14: temporally restricted

- Changed as suggested

line 25: this sentence doesn't quite make sense

- The sentence was rephrased.

Page 18

line 10-14: I do not believe you can with any confidence that these differences provide any indication of the vital effect because you have very limited constraint on the water temperature and isotope composition at the time of shell formation.

- Positive vital effects are reported for several species. In the case of *C. ilosvayi*, a vital effect of about 1 ‰ is known (Escobar et al., 2012). The existence of this offset during the shell calcification and its constancy is one of the assumptions for this modelling approach (see chapter 3.4). Thus, a positive deviation of the monthly calculated calcite and the mean isotopic values of *C. ilosvayi* have to be considered for a plausible calcification time.
- However, the perspective sentences have been rephrased to make that more clear.

Also, do the $\delta^{13}\text{C}$ values help with you working out the timing of calcification? Even if they do not, it would be worth stating this.

- Unfortunately, for this study it was not possible to confine the timing of calcification with d13C values. However, a sentence on the potential use of d13C was added.

line 21: rainfall events

- Changed as suggested

line 26-27: consider rephrasing

- The sentence was rephrased as suggested

Further changes

Figure caption

Fig. 3 Spelling mistake was corrected