

Interactive comment on “Oxygen isotope ratios in the shell of *Mytilus edulis*: archives of glacier meltwater in Greenland?” by E. A. A. Versteegh et al.

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The seasonal $\delta^{18}\text{O}_{\text{C}}$ values found in the shells are compared with predicted $\delta^{18}\text{O}$ values by first matching the correct seasons with each other (these can be clearly distinguished using peaks and troughs in the shell records; Fig. 4). Then individual shell $\delta^{18}\text{O}_{\text{C}}$ values are shifted horizontally (along the time axis) to match corresponding values on the predicted $\delta^{18}\text{O}$ curve. When this is done, care is taken that there are no “time axis inversions” and we allow for a gap in the shell $\delta^{18}\text{O}_{\text{C}}$ record at each peak and trough, due to a possible growth cessation. The above procedure could indeed be called wiggle-matching.

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In section 4.3 the seasonal temperature variation has been taken into account in our calculation of predicted shell $\delta^{18}\text{O}_{\text{C}}$ values.

In our further work on shell middens and raised shorelines we aim to collect living specimens as close to the sites as possible, to minimise possible confounding influences of different local environments.

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