



EGUsphere, author comment AC1
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Reply on RC2

Thibault M. Bédard et al.

Author comment on "Calcification response of planktic foraminifera to environmental change in the western Mediterranean Sea during the industrial era" by Thibault M. Bédard et al., EGU sphere, <https://doi.org/10.5194/egusphere-2022-711-AC1>, 2022

The authors would like to thank referee #2 for taking the time to review the manuscript and for its positive feedback. We acknowledge that the inputs and suggestions provided have really helped to improve the quality of this work.

Here we detail the corrections that have been applied and changes that have been done in order to integrate referee #2 suggestions. Here, **R1-C** stands for referee #1 **Comment**, and **R1-R** stands for authors **Response**. Referee #1 comments are marked in italic.

R2-C1: Abstract:

I found it to be a bit too methodological, too much information to move into the materials and methods (i.e. As the traditionally used sieve fractions method is considered unreliable because of the effect of morphometric parameters on the foraminifera weight, we measured area and diameter to constrain the effect of these parameters).

R2-R1: Corrected according to reviewer's suggestion. The sentence has been moved and rewritten in **section 3.4.** paragraph 5. Now it reads "**However, it has been described traditionally used sieve fractions method is considered unreliable because of the effect of morphometric parameters on the foraminifera weight (Beer et al., 2010).**

R2-C1: Paragraph 3:

*It is missing (and is instead necessary) a paragraph that deals with the **ecology** of the species that have been chosen for this type of analysis. Above all because calcification is a highly specific character depending on the ecology and living depth so I think it is necessary to analyse the ecology to understand if it can interfere in some way with the analyses proposed in this work.*

R2-C2: Authors agree with this suggestion. Now, **section 3.3.** in the material and methods describes the ecology of the 3 species following the bibliography provided by referee#2 and some additional sources. **It reads: "Ecology and life cycle of *G. bulloides*, *N. incompta* and *G. truncatulinoides*".** The major ecological features of each species, as well as their life cycle has been described in order to clarify some points of the discussion. A clearer link has been established at **section 5.1.** when discussing the Optimum Growth Conditions.

Technical corrections:

R2-C3: Line 133: It is not necessary to repeat the name of the genus, just bring it back pointed (*G. bulloides*). This inaccuracy is present many times in the text, pay attention on this.

Similar comments: Lines 232, 233: do not repeat the genus. Lines 232, 233: do not repeat the genus. Lines 822, 823: do not repeat the genus.

R2-R3: Corrected according to suggestion. As some mistakes of the same type have been noted by reviewer #2, all of them have been corrected.

R2-C4: Line 187: I don't know if it is a problem with the pdf that was generated by the automatic system but the references must be formatted like the rest of the text, now here have different font and size.

Similar comments: Line 286: Format as line 187. Line 757: Format as line 187.

R2-R4: Corrected according to suggestion. This has been noted a few times and all mistakes have been corrected.

R2-C5: Table 1: Format the last "bulloides".

R2-R5: Corrected according to suggestion.

R2-C6: Line 430: Seasonal and not Seasonnal.

R2-R6: Corrected according to suggestion.

R2-C7: References: In many cases, the species name is not given in italics in the references. I.e. Lines: 875, 917, 1009, 1021, 1061, 1084.

R2-R7: Corrected according to suggestion.

REFERENCES:

Beer, C. J., Schiebel, R., and Wilson, P. A.: Technical Note: On methodologies for determining the size-normalised weight of planktic foraminifera, *Biogeosciences*, 7, 2193–2198, <https://doi.org/10.5194/bg-7-2193-2010>, 2010.

AUTHORS COMMENTS ON ADDITIONAL CHANGES:

Comment 1. There was a mistake in the previous version concerning the MOOSE program citing and the DYFAMED database references. This has been corrected in sections 3.1 and 3.4.

Now it reads: "**MOOSE program (Mediterranean Ocean Observing System for the Environment) (Coppola et al., 2019)**" and "**...DYFAMED database (<http://www.obs-vlfr.fr/dyfBase/index.php>) (Coppola et al., 2021).**"

Authors would like to thank Laurent Coppola for his helpful comment concerning this issue.

Comment 2. The references list was not in the correct format in the previous version of the manuscript. This has been corrected to the Copernicus format.

REFERENCES:

Coppola, L., Raimbault, P., Mortier, L., and Testor, P. Monitoring the environment in the northwestern Mediterranean Sea, *Eos*, 100, <https://doi.org/10.1029/2019EO125951>, 2019.

Coppola L., Diamond Riquier E. Carval T., Dyfamed observatory data. <https://doi.org/10.17882/43749>, 2021.