

Biogeosciences Discuss., referee comment RC2
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Comment on bg-2021-62

Anonymous Referee #1

Referee comment on "Permanent ectoplasmic structures in deep-sea *Cibicides* and *Cibicidoides* taxa – long-term observations at in situ pressure" by Jutta E. Wollenburg et al., Biogeosciences Discuss., <https://doi.org/10.5194/bg-2021-62-RC2>, 2021

The authors provide new observations on ectoplasmic structures in deep-sea foraminifera and it is the first to describe the shell of *Cibicidoides* as internal rather than an external feature. They further describe how these structures are used as scaffolding for activities such as motility and feeding.

There is a lot less known on the deep-sea species compared to other groups of foraminifera which makes any new observations an important contribution, and specifically when culturing is done under in situ pressure. Thus, I think these observations are important for further understanding of the physiology and ecology of deep sea benthic foraminifera and only have a few suggestions that might help with clarity

Introduction: at the end of section (line 52-54) it's unclear to me why they did these extra experiments. The authors should consider rephrasing to include the aim

Method: This section starts with a statement that central to this study are observations from a previous study but don't mention what these are. If they are central, maybe they should have been introduced before, perhaps even in the introduction part

Results: The observations are described in much detail and combined with the images report clearly the development of the ectoplasmic extensions. However it is not mentioned if the observations were done on all specimens and if not on what proportion of them.

Discussion: This section was a bit hard to follow, will the authors consider dividing it to sub sections with headings? this will help the reader follow each part. Some parts of the discussion might be better suited in the results parts (for example lines 371-376)