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Biogeosciences
Discussions

Interactive comment on "Salinity-depending carbon and nitrogen uptake of two intertidal foraminifera (*Ammonia tepida* and *Haynesina germanica*)" *by* Michael Lintner et al.

Michael Lintner et al.

michael.lintner@univie.ac.at

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ad Anonymous Referee #2

Main point:

Line 93: For our experiments, we only used foraminifera with densely filled cytoplasm. In addition, we only used individuals with an intense yellowish color of the cytoplasm. The incubation time of foraminifera in the crystallization dishes before feeding was used for the "crawling test". Foraminifera were placed in the center of the crystallization dish immediately after removal from the cultures. After 24 hours individuals could be

identified that have moved away from the center. Accordingly, these individuals have active pseudopodia and are alive. After finishing the experiments, the individuals were also checked for the intense yellowish color, but no "crawling test" has been carried out, since additional stress and time (with continuing breathing and excretion) could strongly affect the isotope content and therefore the results. In all our experiments is was very rare (below 4%), that single individuals did not show colored cytoplasm and they were therefore counted as "survive". Completely empty tests, which would clearly stand for dead individuals, were not found. We added this information to the methods.

General Questions:

1, 2 & 4: In order not to disturb the experiments, no water change was carried out. O2 and pH were also not measured, since we did not expect a significant change due to the small amount of added food.

3: The crystallization dishes were sealed tightly with parafilm. The water level and regular control of the salinity showed, that there was no evaporation. We added this information to the methods.

Specific comments:

Line 91: We used water from the location. We added this information to the methods.

Line 94 and 104: ad 94: The 21 °C correspond to the room temperature of the laboratory, where the foraminiferal cultures were placed. Ad 104: the 20°C refer to the temperature in the incubator, where algae were cultivated. Experience shows, that algae grow very well at 20°C. The feeding experiments were also carried out at 20°C in the incubator, for optimal food uptake conditions. This experience is based on the experiments of Wukovits et al. (2017).

Line 121: 0.45 μm – We added this information to the manuscript.

Line 125: No, the food was directly put into the crystallization dishes and mixed there. See response to Referee #1.

Line 126: “Untreated” means not fed. Foraminifera were removed directly from the stock culture and processed. We improved this sentence to avoid confusion here.

Line 141: It is difficult to say what is inside of the foraminifera. But before foraminifera were further processed, they were cleaned with a brush to remove any organic or inorganic residues that were visible on their test.

Line 377: . was replaced with ,

Line 400: We agree with the reviewer. However, in this chapter we only refer to the availability of food.

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