Element/Ca ratios in Nodosariida (Foraminifera) and their potential application for paleoenvironmental reconstructions

Review

In my opinion this is an overall excellent paper which should be published, with appeal to a broad audience, i.e.,. ranging paleoceanographers to geochemists working on carbonate-based proxy development to foraminifera-specialists. The generated data on the element/Ca values of 5 common used proxies (including calibration of the Mg/Ca temperature proxy) are of importance for reconstruction of paleoenvironments, to the opportunities and pitfalls of carbonate produced by living organisms, to undertsanding the phylogeny, evolution and relations between different groups of foraminifera. The paper is of specific interest for reconstruction of late Paleozoic-early Mesozoic environment, because the studied group (Nodosariata) was a dominant group of benthic foraminifera before the Albian-Santonian radiation of the Rotaliida, presently by far the dominant, most highly diverse group of calcifying benthic foraminifera and all planktic foraminifera.

Various authors have included Nodasariata in their stable oxygen and carbon isotope analysis, though usually not defined at the species level. Such data commonly showed large errors, and/or did not correlate well with analysis of Rotaliida in the same samples. Could the authors say something about stable isotope data available for Nodosariata?

In view of the fact that such analyses usually combined different morphospecies of e.g. *Lenticulina*, could the authors specifically comment on differences in El/Ca by species within the same genus?

Methods:
Others might prefer somewhat different methodology (e.g., rose bengal stainin g, absence of reductive cleaning, check for clay contamination), but in my opinion the methodology is acceptable since clearly described, so readers can take into account how measurements were made. Statistical data analsyis is also well described and looks good.

Taxonomy:
Nodosariata taxonomy is complex, and definitely not full examined; in general the names cited with images in fig. 2 seem OK, except for 2d: *Lenticulina papillosa*, which species is a densely coiled spiral, not unrolling. A species with a uniserial part is *Vaginulinopsis baggi* McLean 1955 (https://www.marinespecies.org/aphia.php?p=taxdetails&id=896255).
In 'fundamentally distinct morphology' (line 197), I would like to see the very typical apertural morphology mentioned in addition to the chamber arrangement, because the aperture is easily recognizable for non-foram specialists.
line 203: 'large difference *in time* of first fossil occurrence' - please add 'in time'
line 206:' ***'El/Ca*** variability ...is remarkably small'; please add 'El/Ca' or 'chemistry of shell carbonmate', to make this clear (in fact, morphological variability is rather large)
line 215: very good to see that added.
lines 238-240: the studied station are all relatively shallow, so I would not expect significant undersaturation - please provide values of carbonate saturation so the reader can see what these values are.
lines 270-275: somewhat speculative, but I like this hypothesis of dual components.
Figure 5: please use different signature for inorganically precipitated calcite, to make that stand out.

I strongly suggest that the data are placed at an online data provides such as pangaea.de, rather than 'made available'.