

# Reply to Silvia Gardin

Dear Dr. Gardin,

thank you very much for your input on the manuscript, it is highly appreciated. Here is our reply to your comments. We hope the changes we implemented improve the shortcomings of the manuscript highlighted by your comments and suggestions. Please do not hesitate to contact us shall this not be the case for some comments.

## 1. Comments from Dr. Gardin

Comment 1: Maybe because the Paleozoic is not my cup of tea, but I find Keith Dewing's comment n°2 very appropriate: this manuscript is aimed at a very specialized audience and many of the concepts and ideas are like acquired. I'm not criticizing this, but I find it very regrettable that the word (and tool) palynology is not even mentioned in the summary! Your age reconsideration is based almost exclusively on palynological analyses and taxonomy, this aspect should be well detailed in the summary. If the non-specialist will not venture further into the detailed reading of the text, at least he will know, thanks to an informative summary that this work is based on a taxonomic and palynological reinterpretation. You write "the present work revise the age..." but on what this revision is based we only discover in the text! Likewise, in the conclusions, I urge you to make this clearer to have a wider public impact and better fit to the Journal audience.

Comment 2: As for the use of "critique" instead of "review", I find that to be quite subtle, but you also have the choice of other terms as well, such as « re-interpretation » or « reconsideration » which you can use instead one or the other according to your convenience.

## 2. Author's reply

Comment 1: agreed, the authors of the present manuscript are actually shocked that this did not cross anyone's mind at some point in the writing process. It is indeed important to specify the types of constraints used in the present review. The present work does not reinterpret any of the ages obtained by previous studies, but tries to sort out reliable from unreliable constraints.

Comment 2: the authors of the present manuscript did not realize that the comment of Dr. Dewing regarding the term “critique” versus “review” targeted the title of the manuscript and not the registration of the type of manuscript in Solid Earth. The authors of the present manuscript still believe that the term “review” applies since the manuscript reviews all the age constraints available and giving insights in the timing of the Svalbardian event. As it turns out, the review of these ages shows that they overwhelmingly point at major inconsistencies in the timing of the event, possibly that the event did not occur at all. The authors of the present manuscript are open to change the title of the manuscript but feel that the term “critique” would make some readers think before they even start reading that the present study was not conducted in a most objective and impartial way.

### **3. Changes implemented**

Comment 1: added “including notably palynological, paleontological, and geochronological evidence. This” lines 25–26, and deleted “, which” line 26. Added “Palynological and paleontological evidence suggest that” line 28, “Palynological ages indicate that” line 31, “and are robustly constrained by palynological and paleontological markers” lines 623–624, and “Palynological evidence confirm that” line 632.

Comment 2: none yet, but could change the term “review” in the title if judged necessary.