

Interactive comment on “Subseafloor basalts as fungal habitats” by M. Ivarsson

Anonymous Referee #2

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The paper by M. Ivarsson shows some interesting dataset on fungal microfossils in oceanic crust. The paper is well conceived and reads quiet well. This dataset should therefore be published after some minor revisions. In detail my comments are (line numbers): Abstract (1-2): here possibly many people would argue that we know and do a lot of research already about the deep biosphere. Please rephrase. (18): do you have evidence for that? Even if the observed structures are fossilized fungus this does not mean that the fungus are still active today. This is a logical false argument. Please rephrase. (19-20): here i miss a justification for this claim. Introduction (21) the subseafloor basalts are with a few exceptions – change “are” to “is” (22) remove “basically”, change “from a” to “from the” (24) I think there is still discussion if the structures described by Furnes and his co-workers are actually ichnofossils or not. In this respect it would be also appropriate if you could cite some work maybe discussing non biological origin of such textures. Also it would be appropriate to cite studies not

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published by the group around Furnes et al. Page 2279 (9): Please provide a reference for the staining. Please discuss if check if this could be an artefact - I am always a bit worried that all dye which is not bound to organic matter is removed prior to fluorescent detection and not retained e.g. by capillary forces in small cracks of the sample Page 2282 (3): please provide arguments that it is not a alteration rind. Page 2290 (5-15): how can you be sure that the element budgets you describe here are not derived from an ex-situ source. If you have clays in your structures these clays can adsorb all you want from an ex-situ source. Do you have any indication on fluid flow? Also I wonder why you did not attempt to mineralogically characterize your clays (e.g. by TEM). Figures: I miss a overview picture over a bigger area of the thin sections.

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