

Thank you for the positive assessment and the suggestion for improvement.

In line with the suggestion of Reviewer #2, we have added the following text to section 2 (ll. 115-124):

“Microbial dispersion into Arctic soils functions in a different way than faunal dispersal. Here, lateral, northward dispersal is likely less limiting than for soil fauna because airborne dispersal is widespread in many bacteria and fungi (Harding et al., 2011; Thompson et al., 2017), but the vertical dispersal of micro-organisms into newly-thawed layers is the subject of ongoing investigations. While microbial communities in newly-thawed permafrost can converge with those observed in the active layer (e.g. Monteux et al., 2018; Doherty et al., 2020), it remains unclear whether this stems from microbial migration downward or from modifications of the existing permafrost microbial community. What further complicates predictions of future microbial communities in the Arctic is the existence of ancient bacteria and viruses in permafrost which, after being dormant for millennia in frozen soil layers, can become active again upon thaw (Miner et al., 2021). How the active and dormant microorganisms currently present in permafrost will interact with newly-arriving microorganisms to determine the assembly of post-thaw permafrost microbial communities is still unclear (Ernakovich et al., 2022).”