Nucleotide selection has been shown to vary along environmental gradients in soil along with other genomic traits (36, 37). In high pH and low-carbon soils, bacteria tend to have smaller genomes with higher GC content, potentially reflecting the increased demand for carbon with AT base pairs (36, 38)—as low C:N environments may select for bacteria with a preference for acids and high GC content (39).

However, it is worth noting that

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