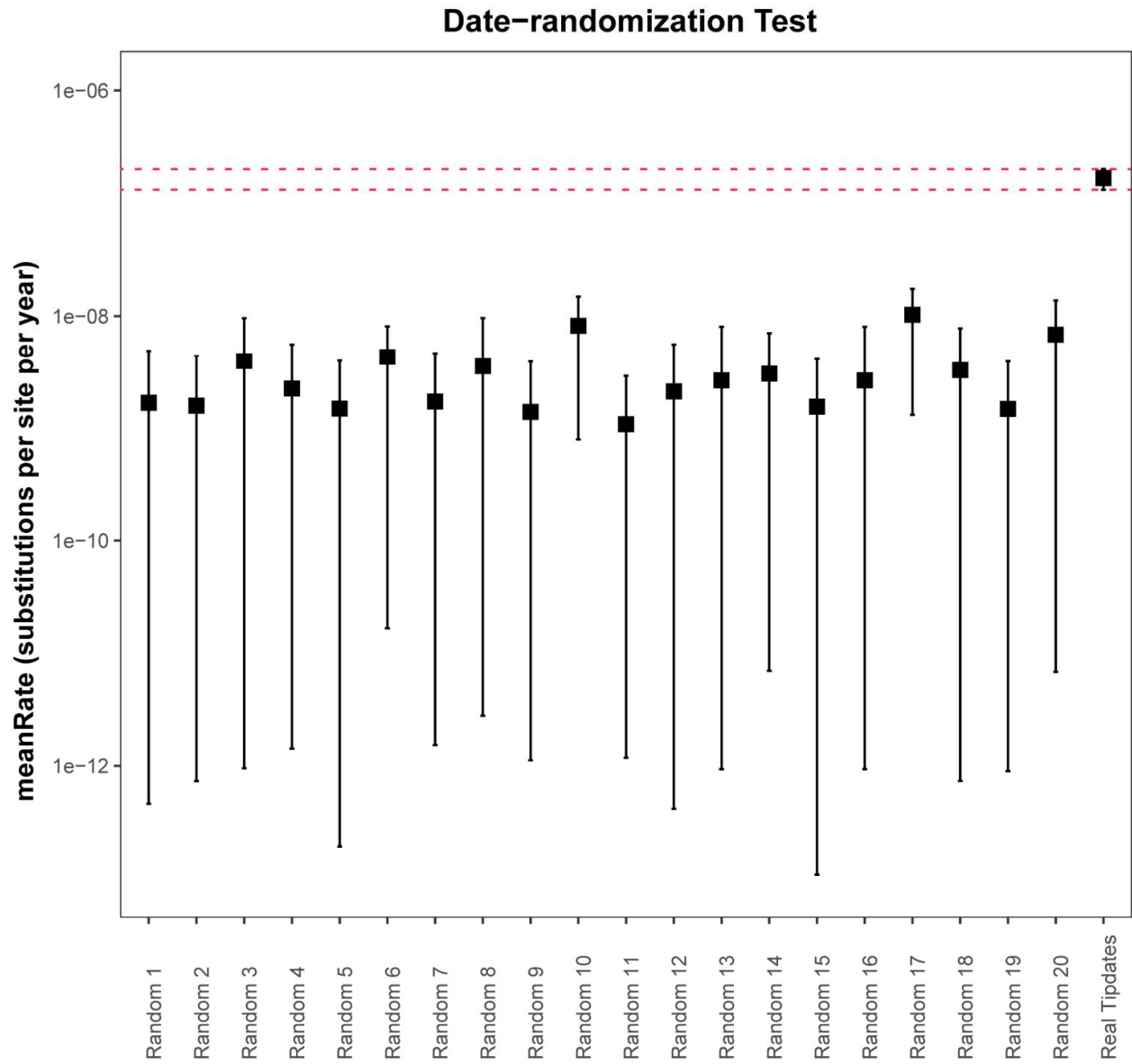


**Figure S1:** Date-randomization test. We repeated our BEAST2 analysis 20 times with identical model settings but with randomly reshuffled sampling dates. A dataset is considered to have strong temporal structure if the rate estimate obtained using the genuine sampling times is not contained within the range of values from the randomized permutations.



**Figure S2:** ML-tree of 558 Paratyphi A lineage 2.3 isolates detailing relatedness, geographical origin, and year of isolation of all analyzed strains.

