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Bacterial diversity and biogeochemical analysis of sediments in Eastern Mediterranean Sea

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Abstract

The limited number of studies on relationship between environmental parameters and bacterial community composition in sediments of Eastern Mediterranean Sea include bacterial biomass, nucleic acid concentration and cultivation independent studies. Cultivation based methods, on the other hand, are important for further studies such as production of secondary metabolites and identification of new species. In the present study, totally nineteen stations with 0-1235 m depths were sampled from sediments of Eastern Mediterranean Sea. The grain size and carbon, nitrogen, phosphorus contents of sediment samples were analyzed. Bacterial isolation was achieved using seven different sediment processing methods and seven isolation media prepared with sterile seawater and then incubation at 20-28 °C up to two months. 16S rRNA gene sequences of 185 strains were deposited into NCBI GenBank database and phylogenetic analysis was performed with 1000 bootstrap neighbor-joining method. Hierarchical cluster analysis was used to compare bacterial community composition.

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