

The trench biosphere observed from the transect water sampling for the Japan Trench

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We have discovered the presence of the trench biosphere that harbored distinct microbial populations comparing to those in the upper water masses in the Challenger Deep, Mariana Trench (Nunoura et al. in preparation). The deep locates under the oligotrophic ocean and is isolated from the other trenches while the Japan Trench locates under eutrophic ocean and in a series of long trenches in north Pacific. Therefore, the Japan Trench has one of the best environments to test the universality of the occurrence of trench biosphere. In this study, we conducted CTD casts in 8 stations across the Japan Trench in 2011 after the big earthquake and analyzed microbial structures for each sample in order to examine the occurrence of the trench biosphere.

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