

Trace element chemistry of deep-sea corals from different oceanic regions

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Deep-sea corals belong to Octocorallia subclass animal known to live up to 1500 meters depth, which is different from reef corals of Hexacorallia subclass living near shallow oceans. Mineralogically, these corals are high magnesium calcite containing about 10% magnesium. Red-pink-white corals among them are, especially, called as precious corals and organic gemstones. Its major habitats are the eastern Atlantic Ocean from the Mediterranean to Africa, the western Pacific Ocean from Japan and Vietnam, and the North Pacific Ocean from Midway to Hawaii. The trace element composition of these three deep sea corals is analyzed by Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICP-MS). As a result similar to previous studies (1-2), differences in lead and barium concentrations were observed, suggesting that they correlate with the seawater composition of the habitat.

1) Hasegawa et al. (2012) Trace elements in *Corallium* spp. as indicators for origin and habitat, *Journal of Experimental Marine Biology and Ecology*

2) Vielzeuf et al. (2018) Growth kinetics and distribution of trace elements in precious corals. *Frontiers in Earth Science*.

Keywords: deep-sea coral, trace element chemical composition, LA-ICP-MS