

U020-16

会場:304

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サンゴ骨格と無機合成アラゴナイト結晶の比較

Comparison of crystallographic texture coral skeleton with synthesized aragonite

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Coral skeletons are constituted of aragonite (CaCO_3). Aragonite is a metastable phase compared to calcite under the coral growing environment. The growth process of aragonite has been interested for long years but not been revealed clearly, although it should be greatly important for the reconstructing paleoclimate using variation of the trace elements and isotope in coral skeletons.

Organic matters play important role in biomineralization, and sometimes control the growth texture of minerals. For example, the nacre of the shell is composed of layered aragonite platelets shaped hexagonal and the crystallographic c-axis normal to the plane of platelets. It is well known that organic matrix sheets between the platelets control the formation of mineral texture in nacre. However aragonite crystals in coral skeletons formed by biomineralization show needle-like shape and elongate along the c-axis.

In this study, we compared mineral textures of the synthetic of aragonite with natural coral skeleton in order to consider the biomineralization process of coral skeleton growth.

Synthetic aragonite was prepared by precipitating from quasi-seawater without organic matrix at 25 degrees C. Observation was made by using a scanning microscope and a transmission electron microscope.

Keywords: coral skeleton, aragonite