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蛍光色素を用いた共生藻をもつ有孔虫の室形成過程の解明
Distribution of intracellular pH and algal endosymbionts during chamber formation in symbiont-bearing reef foraminifers

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Calcification mechanisms of algal symbiont-bearing reef foraminifers have not yet been well understood. In particular, it is cytologically not clear how the photosynthesis by algal endosymbionts enhance the calcification of host foraminifers. We visualized the distribution of intercellular pH and algal endosymbionts using a fluorescence probe HPTS as well as chlorophyll autofluorescence. High pH vesicles were gradually stored around symbionts before chamber formation. Our observations suggest that the photosynthesis by symbionts enhances the production of calcite needles or carbonate pools in vesicles by removing CO2 around them.