

PIXE analysis of trace elements in otoliths of the alfonsino, *Beryx splendens*, in waters of Sumisujima, Izu islands area

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Abstract

This study suggests the behavior ecological study of the alfonsino, *Beryx splendens*, by analysis of trace elements in otoliths. We analyzed otoliths extracted twenty individuals of the alfonsino in the water of Sumisujima, Izu islands area by PIXE method. Twenty one elements were detected in otoliths of the alfonsino, seven elements were detected from all sample. Sr/Ca ratio of otoliths from Sumisujima and Aogashima areas was higher than those from Hachijojima and Okinotorishima areas. This result suggests that the alfonsino from Sumisujima and Aogashima areas have inhabited in higher salinity and lower water temperature area than those from Hachijojima and Okinotorishima areas. There were positive correlation between the concentration of Si in otolith and body length in waters of Sumisujima in the same way as those in waters of Hachijojima. This result suggests that habitat areas of alfonsino has moved into deeper waters as alfonsino ages in waters of Sumisujima.