

PIXE analysis of trace elements in otoliths of
the alfonsino, *Beryx splendens*, in waters of
Muroto knoll off Muroto cape, Kochi prefecture

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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 Muroto knoll off Muroto cape, Kochi prefecture, by PIXE method. Thirteen elements were detected in otoliths of the alfonsino, three elements, S, Ca and Sr, were detected from all sample. Sr/Ca ratio of otoliths from Muroto knoll areas was higher than those from Izu islands and Okinotorishima areas. This result suggests that the alfonsino from Muroto knoll areas have inhabited in higher salinity and lower water temperature area than those from Izu islands and Okinotorishima areas. Sulfur concentration of otoliths from Izu islands area was higher than those from another area. This result suggests that sulfur element are introduced into otoliths by resulting that alfonsino has lived in the waters of volcanic zone.