# Studies on the Coral Reef Ecosystem as Indicated by Photosynthetic Pigments : A case study of Taketomi Hot Spring Area

## PE-17 Studies on the Coral Reef Ecosystem as Indicated byPhotosynthetic Pigments :Acase study of Taketomi Hot Spring Area

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### Introduction

Sekisei-Lagoon is the biggest Coral Reef in Japan and is important for the maintenance and conservation of Coral reef in Ryukyu Islands. One of the typical feature of Taketomi submarine hot spring is to gush out hot water (~60 oC) together with the accompanied gases such as methane, hydrocarbon, hydrogen sulfide, hydrogen as well as nutrients and heavy metals. Coral reef ecosystem around Taketomi hot spring is considered to be composed coral reef community with macrobenthos

### Field observation and methods

Sediments cores and ambient sweater samples were collected by scuba diving around the center of hot spring in 2006/2007. Photosynthetic pigment, nutrients and heavy metal (Fe) in water and sediments were also determined

### Results and Discussion:

Chlorophyll-d containing *Acaryochloris* is a recently recognized unique organism to operate the oxygenic photosynthesis by utilizing infrared light, and classified in to genus Cyanobecteria.

Our results reveal that specific pigments Chlorophyll-d were found in the central part of the hot spring where NH4-N and Fe(II) concentrations were relatively high in the ambient seawater.