

## Variation of stable isotope in soft tissue of scleractinian corals collected from Temperate zone in Japan

\*Tomihiko Higuchi<sup>1</sup>, Hiroyuki Fujimura<sup>2</sup>, Kentaro Tanaka<sup>1</sup>, Shirai Kotaro<sup>1</sup>, Sylvain Agostitni<sup>3</sup>

1. Atmosphere and Ocean Research Institute, The University of Tokyo, 2. Faculty of Science, University of the Ryukyus, 3. Shimoda Marine Research Center, University of Tsukuba

Coral is dependent on particulate organic matter in seawater such as plankton and organic matter produced by photosynthesis by brown worms as nutrient sources. However, we do not know much about the seasonal variation of nutritional dependence, such as how much it changes depending on water temperature and light intensity. Carbon isotopic ratios ( $\delta^{13}\text{C}$ ) and nitrogen isotopic ratios ( $\delta^{15}\text{N}$ ) have been used as key indicators in estimating the nutrients of living organisms. Sulfur isotopic ratio ( $\delta^{34}\text{S}$ ) also has small separation between trophic levels and is applied as a useful bait origin estimation technique. In this study, we studied seasonal fluctuation of temperate coral nutrient source using stable isotopic ratio as index.