

BPT012-P04

Room: Convention Hall

Time: May 24 17:15-18:45

Reproductive characteristics of deep-sea vesicomid clams, *Calyptogena soyoae* and *Calyptogena okutanii*

Eriko Seo^{1*}, Hiromi Watanabe², Takao Yoshida², Masaru Kawato², Tadashi Maruyama², Hideyuki Imai³, Katsunori Fujikura²

¹TUMSAT, ²JAMSTEC, ³University of the Ryukyus

Two vesicomid bivalve, *Calyptogena soyoae* and *C. okutanii* are inhabiting a methane seeps located at a depth 800 - 1200 m the Off Hatsushima Island site in Sagami Bay. Vesicomid bivalves are consistently one of the dominant components of deep-sea chemosynthetic communities. Reproduction is a critical factor in the life history of all organisms. However, information regarding the reproduction of vesicomids is rather limited. The previous studies indicated *C. soyoae* had continuous reproductive patterns and sperm release was induced by a rise in water temperature (Fujiwara et al. 1998), egg release of *C. soyoae* and *C. okutanii* complex was always preceded by male spawning and decreasing near-bottom current speeds (Fujikura et al. 2007), and sexual matured size of female and male were 68 mm and 57 mm in shell length, respectively (Kamiyama 2003). However, it is difficult to discriminate *C. okutanii* from *C. soyoae* on the basis of only shell morphology (Kojima and Ohta 1997). These previous reproductive characteristics indicated *C. soyoae* and *C. okutanii* complex. Therefore, we have to understand reproductive characteristics of *C. soyoae* and *C. okutanii* on the basis of correct identification. The purpose of this study is to understand reproductive characteristics such as sexual matured size and sex ratio of *C. soyoae* and *C. okutanii*. Both species were identified based on the shell morphology and the nucleotide sequences of the mitochondrial gene for cytochrome c oxidase subunit I (CO I). As the results, both species had continuous reproductive patterns, sexual matured female size was bigger than that of male, and sex ratio was almost even (*C. soyoae*: 52 % female, 48% male, *C. okutanii*: 48% female, 52% male).

Keywords: reproduction, *Calyptogena*, sex ratio, sexual maturity size, methane seeps, Sagami Bay