

Preliminary account of chemosynthetic community associated with methane seep at the Naoetsu basin, eastern margin of Japan Sea.

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A number of pockmarks, mound, magnificent flares of gas plumes have been observed on the spur (Umitaka spur) off Naoetsu in the eastern margin of Japan Sea during the cruise of UT-04 (R & T/V Umitaka-maru) in 2004. The deep-tow surveys and dives of ROV-Dolphin (KY05-08;R/V Kaiyo and NT05-09;R/V Natsushima) have discovered the benthic community in this area in 2005.

Water depth of survey areas was ca. 900 m, and water temperature was 0.25C near the bottom. In comparison with water temperature of another cold seep area, the present study area is low. Deep-tow camera and ROV-Dolphin demonstrated wide distribution of white bacterial mat zones and sea-floor exposure of gas hydrates. Some benthos, such as *Lycodes tanakai* (Pisces), *Allolepis hollandi* (Pisces), *Chinoecetes japonicus* (Crustacea), *Buccinum tenuissimum* (Gastropoda), *Provanna* sp. (Gastropoda), *Conchocele bisecta* (Bivalvia) and sponges (Porifera) were observed. Genus *Provanna* that was distributed only from chemosynthetic community was first collected from Japan Sea. The most dominant species in the present study area seems to be the red snow crab, *C. japonicus*. Species diversity and density of benthic organisms on the carbonate nodule with bacterial mat zone was clearly higher than the mud bottom. It seems that the density of *C. japonicus* has a close relation to the bacterial mat. As we found no food organisms on the sea bottom, it is considered that the *C. japonicus* may eat to the bacterial mat. Detail of biomass in this area was also discussed.