

## Current status and problems of studies on ancient fossil chemosynthetic communities

JENKINS, Robert<sup>1\*</sup>

<sup>1</sup>Kanazawa University

Nearly 40 years has been past from the first finding of novel ecosystem (chemosynthetic ecosystem) from deep-sea hydrothermal vent along Galapagos Rift. Since the discovery, the chemosynthetic ecosystems have been found not only from vents but also around cold-seeps, whale falls and sunken drifted woods. The ancient chemosynthetic communities have also been recognized and dozens of researches have been reported from various ages and areas. Up to now, we have roughly known temporal changes of chemosynthetic communities. Many interesting hypotheses for the evolution of chemosynthetic communities have been proposed from both paleontological and modern biological sides. However, many problems and/or conflictions have been recognized. For examples, recognition of ancient chemosynthetic communities especially depended on whale carcasses and sunken wood, confliction between molecular divergent ages and fossil record, and incomplete records of temporal and spatial distribution of fossil record. This presentation will summarize current status of studies on chemosynthetic communities, and propose some scopes to understand better evolutionary history of chemosynthetic communities.

Keywords: chemosynthesis-based ecosystem, evolution, fossil assemblage, Mesozoic, Cenozoic, Extreme environment