

## *Nucinella* found in a chemosynthetic community off the Sanriku coast, northeastern Japan at 123 m depth

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Nucinellids are very small bivalves, generally less than 5 mm in length, related to the Solemyidae, which are typical chemosymbiotic bivalves. Reid (1990) and Amano et al. (2007) hypothesized, on the basis of the Nucinelidae's gutless state and their occurrence in Cretaceous cold-seep deposits, that they have chemosynthetic bacteria in their body. This hypothesis has been partially confirmed by Oliver and Taylor (2012). They found bacteria-like microstructures in their gills. But it has still not yet been fully confirmed that the Nucinelidae have chemosynthetic bacteria or not.

We recovered many dead shells of *Nucinella* sp. with living chemosynthetic lucinid and thyasirid bivalves from the sea off the Sanriku coast at a depth of 123 m during the Taisei-maru (JAMSTEC) cruise KT-11-17 in the summer of 2011. The finding indicates that the Nucinelidae might be a member of chemosynthetic communities even in the Recent, not only in the Cretaceous. Our finding supports the hypothesis that the Nucinelidae have chemosymbiotic bacteria.

Keywords: Nucinelidae, methane seep, cold seep, symbiosis