

Comparison between chemosynthetic bivalve *Mesolinga soliditesta* and lucinids from the Pleistocene Nojima Fm. in Yokohama City

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In 1997, chemosynthetic bivalve *Mesolinga soliditesta* was reported as a new species from a cold seep site located at Kanasu-no-Se Bank, Suruga Bay. The species is not known from other chemosynthetic communities and fossil records. But lucinid fossils from the middle Pleistocene Nojima Formation in southern part of Yokohama City has been pointed out to have a morphological similarity with *M. soliditesta*. In this study, we compared the lucinid fossils from the Nojima Formation (Daido-chu specimen) to the type specimens (holotype, paratype and topotype) of *M. soliditesta* based on the shell structure and morphology.

Based on the observation of shell structure of both types and Daido-chu specimens using SEM, we identified closely similar structure organized by the outer (planar spheuluritic and composite prismatic), middle (cross lamellar), myostracum (irregular prismatic) and inner (irregular prismatic and complex cross lamellar) layers. The outer and middle layers of the old specimens of both (type and Daido-chu specimens) thicken at their shell margins. The young specimens of both specimens are transversely long in outline, but the senescent specimens are slightly higher than long, solid and inflated. Commarginal cords on external shell surface is fine and become obsolete with growth. Hinge plate of both specimens is stout and having closely similar cardinal and lateral teeth except for the anterior lateral tooth of the left valve. On the left valve of type specimen, the anterior lateral tooth is prominent and represents a nodulous appearance. On the other hand, on the left valve of the Daido-chu specimens, the tooth is bifid and showing socket-like appearance.

The difference of lateral tooth of both specimens is subject of consideration, but the Daido-chu specimen is probably identified with *M. soliditesta* based on similarities of the shell structure and morphology.