

Filament chert: bivalve bearing Upper Triassic radiolarite in the North Palawan Block, Philippines

Tetsuji Onoue[1]; Takashi Nikaido[2]; Lawrence R. Zamoras[3]; Atsushi Matsuoka[4]

[1] Earth and Environmental Sci., Kagoshima Univ; [2] Grad. Sch. Sci. & Tech., Niigata Univ.; [3] none; [4] Dept. Geology, Niigata Univ

Middle to Late Triassic bivalves are characterized by flat, thin-shelled bivalves of the families Halobiidae and Posidoniidae. These thin-shelled pteriod bivalves globally widespread and useful for biostratigraphy during the Triassic. Accumulation of the thin-shelled bivalves has been well documented from the Upper Triassic deep-water limestones of the Northern Calcareous Alps, Sicily, Oman, South China, Timor, and British Columbia. It is widely accepted that the depositional setting of thin-shelled bivalve-rich limestone interpreted as a toe-of-slope, deep shelf, and deep-marine basinal setting around the shelf and bank margins.

Here we report that accumulation of thin-shelled pteriod bivalves are recorded from Upper Triassic radiolarian chert of the Malampaya Sound Group, defined as a Late Jurassic to Early Cretaceous subduction-generated accretionary complex in the North Palawan Block, Philippines. Bivalve-bearing radiolarian chert of the Malampaya Sound Group is considered to be long-lived Panthalassic remnants that represent a far-traveled proto-Pacific plate assemblage. Late Triassic thin-shelled bivalves occur in the radiolarian chert of the Southern Busuanga Belt on Dimanglet Island. The presence of bivalve shells in radiolarian chert is a unique condition never before reported in any Phanerozoic radiolarian chert that accumulated in an open-ocean realm of the Panthalassa Ocean. Biostratigraphic data of radiolarians and conodonts shows that deposition of thin-shelled bivalves occurred in early Norian. Although details are still unknown, their morphology with an ultra-thin shell (less than 30 micron), low convexity, small size, and their early Norian age appears similar to that of the larval to juvenile shells of the family Halobiidae and Posidoniidae. Our results suggest that these thin-shelled pteriod bivalves have a planktonic mode of life during their larval to juvenile stages and their aggregate accumulation formed a pelagic pteriod ooze in an open-ocean realm of the Panthalassa Ocean.