Striped cherts in Jurassic accretionary complexes in the Mino Terrane, central Japan and in the North Palawan Block, Philippines

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

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

Late Paleozoic and Mesozoic radiolarian cherts are widely distributed within accretionary complexes in the Circum-Pacific and Alps-Himalaya orogenic belts. Lithologic characters of radiolarian chert can be regarded as signals indicative of the past Earth system. Radiolarian cherts with striped structures are found in pelagic sequences embedded in ancient accretionary complexes. The striped cherts are characterized by having bedding parallel laminae-like sedimentary structures. Both thinning upward and thickening upward sequence in laminae-like structures are recognized in the striped chert.

Striped cherts are observable in the Mino Terrane, central Japan. Our detailed lithostratigraphic and radiolarian biostratigraphic investigations on Triassic-Jurassic chert sequences exposed along the Kiso River revealed that a striped chert dominant interval is found in Upper Triassic (Carnian-Norian) section where chert sequence is more silica rich than older or younger sections.

Another example of striped cherts is found in Jurassic accretionary complexes in the North Palawan Block in the Philippines. Cherts with a striped structure are generally thicker than the surrounding bedded cherts. The maximum thickness of striped chert rarely attains 1 m. More than 100 stripes are sometimes found in a single thick chert bed. Early Jurassic radiolarians were recently obtained from stripe chert dominated intervals in Uson Island, the North Palawan Block.

Comparing striped cherts in the North Palawan Block with those in the Mino Terrane, the former is more distinctive and includes thicker beds than the latter. The spacing of stripe is generally coarser in the North Palawan Block. In terms of age, striped cherts occur dominantly in the Lower Jurassic section in the North Palawan Block, whereas in the Upper Triassic section in the Mino Terrane. These differences possibly indicate diversification in paleoenvironment in the Panthalassic Ocean.