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Relationship between the Kamiaso unit and the Nabi unit in the Mino terrane of the Mino-Seki area, Gifu Prefecture

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The Mino terrane, one of the disrupted terranes in central Japan, is divided into several tectonostratigraphic units on the basis of composition, fabric and age. However, there is a problem that these data are biased, because detailed studies have been conducted only in limited areas. The Mino-Seki area of the central part in Gifu Prefecture is one of such area. According to Wakita (1988b), this area is occupied by the Kamiaso unit characterized by repeating coherent chert-clastic sequences and the Nabi unit characterized by broken formation composed of sandstone / mudstone and melange. The Wadano Coglomerate (Kanuma, 1956), characterized by breccias of chert, siliceous claystone, limestone and basaltic rocks, is also distributed in the study area. Here, I will discuss relationship between the Kamiaso unit and the Nabi unit in the Mino terrane.

As a result of a detailed field work, accretionary complexes in the Mino-Seki area are divided into a coherent unit (Kamiaso unit), melange unit (Nabi unit) and the Wadano Coglomerate. The Kamiaso unit is characterized by a tectonic pile composed of chert-clastic sequences that retain the oceanic plate stratigraphy. Chert samples yield Middle Triassic to Early Jurassic radiolarians, while mudstone samples yield Early Bathonian radiolarians. The Nabi unit includes melange and alternating beds of chert and siliceous micrite. There are also differences in the lithology of chert. Black chert with weathered red surface is commonly found in the Nabi unit especially along the Nagara River. These lithofacies generally are not recognized in the Kamiaso unit. Chert samples yield Middle Triassic to Early Jurassic radiolarians, while siliceous mudstone samples yield Middle Jurassic radiolarians. A chert sample in alternating beds of chert and siliceous micrite yields of Late Triassic radiolarians. Igo and Koike (1975) reported Late Norian conodonts from a limestone sample in alternating beds of chert and limestone. The Wadano Coglomerate consists mainly of conglomerate and massive sandstone. It is characterized by blocks of basaltic rock chert, siliceous claystone, and limestone. The Upper Triassic siliceous micrite-chert facies of the Nabi unit differs in containing siliceous micrite from the coeval chert of the Kamiaso unit. This relationship has already been pointed out by Sano et al. (2010).

Keywords: Mino terrane, Kamiaso unit, accretionary complex, chert-clastic sequence, radiolaria