Reconsideration of sedimentary place of the Triassic Muyinhe Formation in the Changning-Menglian belt of Southwest China

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Siliceous rocks of the Triassic Muyinhe Formation in the Changning-Menglian belt in southwestern Yunnan Province in Southwest China had been considered to be pelagic deposits. We observed them and analyzed their geochemistry, and recosidered the sedimentary place.
The observation revealed that the siliceous rocks are characterized by inclusion of abundant radiolarian test (e.g., *Triassocampe* Dumitrica, Kozur, and Mostler, *Pseudostylosphaera* Kozur and Mostler, *Eptingium* Dumitrica, and *Paroertlispongus*) and the lack of rhythmical bedding. The geochemical results are as follows: the samples have high concentrations of SiO_2; most of the samples were plotted in the non-hydrothermal field on the Al-Fe-Mn diagram; most of the samples were plotted in the continental margin field on the Fe_2O_3/TiO_2-$Al_2O_3/(Al_2O_3+Fe_2O_3)$ and (La/Ce)N-$Al_2O_3/(Al_2O_3+Fe_2O_3)$ diagrams. In addition, the samples show a flat rare earth element pattern normalized to North America shale composite.
These observational and geochemical results strongly suggest that the siliceous rocks are unlikely to represent pelagic deposits, indicating that the extent of the pelagic ocean basins in the Paleotethys during the Triassic is probably less than previously believed. These non-pelagic deposits may represent the closure stage of the Paleotethys.

Keywords: Geochemistry, Triassic, siliceous rock, radiolaria, Paleotethys, Changning-Menglian belt

