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Discovery of Middle-Late Triassic Conodonts within accessory complexes of South Qiangtang in the region of Tibetan Marigangri (China) and its tectonic significance

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South Qiangtang is sandwiched between Longmucuo-Shuanghu-Lancangjiang and Bangonghu-Nujiang tectonic belts, in which metamorphic complex was exposed in the shape of ellipse or strip, mainly including Gemuri, Nierong, Jitang and Jiayuqiao metamorphic rocks, as well as a large range of lightly metamorphized Late Paleozoic strata [1,2]. These rocks show subduction-related accretionary characteristics. Recently, a group of conodonts at the age between Middle Triassic Anisian and Late Triassic Norian were discovered within the limestone of accessory complexes at the region of Mayiganri of south Qiangtang.

The dark gray or gray black limestone is locally clipped in detrital rocks, which was composed by rhythmic interbedding siltstone and sandstone, or rhythmic interbedding mudstone and sandstone. Accompanying with limestone, massive basalt and thin bedded siliceous rocks are also clipped. Such site of rocks, thin shape and E-W trending, was embedded in accretionary complexes composed by Carboniferous - Permian turbidite. According the sedimentary combination, the turbidite was determined forming in continental slope. The slope-basin is the direct evidence for the northward subduction of Paleo-Tethys Ocean, and the developed rocks of the slope overlapped within the accretionary wedge. The group of conodonts in turbidite indicates that the close of Paleo-Tethys Ocean was later than Late Triassic Norian, even to Rhaetian. So, our conclusions are shown as the followings. (1) the rocks including Middle Triassic Anisian and Late Triassic Norian were involved in accretionary complexes of south Qiangtang. Such a discovery is important for determining the upper limit of the age accretionary orogenic in south Qiangtang. (2) According to the Triassic lithologic combination, it was determined as the sediments of slope-basin. The construction of sedimentary model is of great significance to explore the subduction direction for accretionary complexes of south Qiangtang.

References:

- [1] Liang X et al. (2012) Gondwana Research 22: 470-481.
- [2] Liang X. (2014) Journal of the Geological Society doi:10.1144/jgs2014-075.

