

Paleozoic accretionary complex in the Khangai-Khentei belt, central Mongolia, and stratigraphy of Devonian chert

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The Khangai-Khentei belt (KKB) in central Mongolia is composed of Devonian-Carboniferous accretionary complexes (ACs), which were formed in one of the convergent plate boundaries within the Paleo-Asian ocean (PAO) between Siberia and North China continental blocks. This belt extends for more than 1200 km in NE-SW and 300 km wide in central Mongolia, of which main distribution is located in the Khangai Mtns. Preliminary researches were sporadically performed for basic mapping, and radiolarian dating. Nonetheless, vast areas still remain unmapped/undated. In order to document the essential characteristics of AC, i.e., ocean plate stratigraphy, we conducted detailed field mapping and sample collection of bedded cherts and sandstones in three areas; i.e., Arvaikheer, Bayankhongor, and the upper reach of the Orkhon River, along the southern margin of the Khangai Mountains. Cherts are for microfossil (radiolarians + conodonts) dating, whereas sandstones are for U-Pb dating of detrital zircons. We collected 30 samples of chert, and 3 samples of sandstone. This presentation reports the first results of microfossil dating and U-Pb zircon geochronology for these three areas.

Keywords: Devonian, accretionary complex, Mongolia, deep-sea chert, Zircon, Radiolaria