

# Rock Assemblages and Formation Ages of the Baishuijiang Group in the Southwest Qinling Orogenic Belt, Northwest China



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**Abstract:** The Baishuijiang Group, located in the southwest Qinling orogenic belt, is divided into three belts according to the characteristic of the matrix and rock blocks based on the large scale geological mapping. The north belt and south belt are composed of abyssal mudstone and siltstone, and limestone, chert and basic and ultrabasic rock blocks. The middle belt consists of a few limestone blocks and turbidites, which were formed in the trench environment. At present, in the Baishuijiang Group, many fossils were found in matrix and rock blocks, the fossils contain the Cambrian small shell fossils (Xiao, 1992; Tao et al., 1992), Silurian chitinozoas, scolecodonts and spores, and Ordovician graptolites, and middle Devonian Coral and conodonts in limestone and chert blocks (Wang et al., 2011a), and Permian radiolarians in the matrix (Wang et al., 2007). The volcanic rock blocks have undergone different degree of metamorphism. Their geochemical characteristics indicate that the rocks are similar to oceanic island arc and seamount (Wang et al., 2009), and SHRIMP U-Pb dating yielded ages from Neoproterozoic to early Paleozoic (Yan et al., 2007; Wang et al., 2009, 2011b). Therefore, comprehensive analysis of regional data, the Baishuijiang group is an accretionary complex which was consisted of matrix and blocks, and was finally formed during Permian-Triassic.

**Key words:** rock assemblage, formation age, Baishuijiang group, accretionary complex, south Qinling orogenic belt

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