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# Upper Paleozoic stratigraphic framework of the Baoshan-Shan Block straddling China and Myanmar and its structural indications

Xiaochi Jin<sup>\*1</sup>

<sup>1</sup>Institute of Geology, Chinese Academy of Geological Sciences – China

## Abstract

The Baoshan block in western Yunnan, China is a continental block with rather well-developed Cambrian to Triassic sedimentary records. The block thins northwards, and extends southwestwards into the Shan State of Myanmar. It constitutes a portion of a greater block that Jin (1994) named the Baoshan-Shan block. The latter is separated from the Tengchong block and the Tenasserim unit to the west by the Nujiang and Shan Boundary faults, and from the Changning-Menglian Belt and the Inthanon zone to the east by the Lancangjiang, Kejie, Nandinghe and Mae Yuam faults. Its east boundary in eastern Myanmar is tentatively considered to be the line connecting the Nandinghe fault (China) and Mae Yuam fault (Thailand), due to deficiency of reliable data. ("Shan block" is used for convenience in the following to describe the Burmese portion of the Baoshan-Shan block).

Mid-Carboniferous (or Namurian) uplift widely occurred in east Gondwana, as well as its northern marginal region, where the Baoshan-Shan block was located. This event shaped the relief of the Baoshan-Shan block and interrupted the sedimentation on it. Late Carboniferous sediments are hardly seen on the block. Lower Permian siliciclastic rocks (120-150 m) with glacio-marine sediments were deposited on tilted Lower Carboniferous limestones in the northern Baoshan block and on Devonian siliciclastic rocks in the southern Baoshan block. The southwestern Baoshan block through to the Shan block stayed emerged. Deposition of limestones started around the Sakmarian/Artinskian boundary in the northern and southern Baoshan block. But it was soon disrupted by the eruption of the Woniusi Basalts, which filled up the basin on the Baoshan block, with a thickness of ca. 700 m in the northern part and about 500 m in the southern part. The southwestern part and Shan block stayed as highland and was not reached by the basalts. This eruption resulted in a rather flat surface on the Baoshan block.

Coastal clastic sediments of about Roadian age, mainly red beds, formed on a weathered surface of the Woniusi Basalts in the northern and southern Baoshan block, and on Middle Devonian limestones in the southwestern Baoshan block, but are barely reported in the Shan block. Carbonate deposition with a transgression in the early Wordian took place across the whole Baoshan-Shan block. Carbonate formations rest conformably on the Roadian clastic deposits on Baoshan block, but in the Shan block, they rest on (often Middle) Devonian limestones/clastics or older sediments. This episode of carbonate deposition prevailed through to at least the Middle Triassic in most parts of the Baoshan-Shan block, resulting in the formation of thick carbonate successions.

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\*Speaker

In some areas close to the southwestern margin of the Shan Plateau, Lower Permian clastic sequences with glacio-marine deposits occur, which are overlain by limestones of the age of late Artinskian or Kungurian. Whether these successions belong to the Shan block or the Tennassery unit (also called the slate belt) remains a problem waiting for further examination. Nevertheless, the Shan block through to the southwestern Baoshan block apparently lacks Upper Devonian to Lower Permian deposits. On a whole, the hiatus closely related the mid-Carboniferous (Namurian) uplift in east Gondwana has an expanding extent from the northern Baoshan block southwards to the Shan block, namely, from Serpukhovian to early Asseilian in the northern Baoshan block, from Tournaisian to early Asseilian in the southern Baoshan block, from Frasnian to Kungurian in the southwestern Baoshan block, and from the Frasnian to Roadian in the Shan block.

Such an architecture of Upper Paleozoic stratigraphic records prompts in-depth investigations into its relations with the Late Paleozoic glaciation and the rifting process at the northern margin of Gondwana.

**Keywords:** Late Paleozoic, stratigraphy, Baoshan, Shan Block, Yunnan, Shan