

## Detailed stratigraphy across the Middle-Late Permian boundary in the Ebian area, Sichuan, South China

FUTAMORI, Takumi<sup>1\*</sup>, ISOZAKI Yukio<sup>2</sup>, YAO Jianxin<sup>3</sup>

<sup>1</sup>Graduate School of Science The University of Tokyo, <sup>2</sup>Graduate School of Arts and Sciences The University of Tokyo, <sup>3</sup>Chinese Academy of Geological Sciences

The mass extinction across the Paleozoic-Mesozoic boundary (P-TB) occurred in two steps. The major change in biodiversity started around the Middle-Late Permian (Guadalupian-Lopingian) boundary (G-LB). The cause of extinction has not been unknown. In order to clarify the cause of the environmental changes and extinction around the G-LB, we examined detail stratigraphy of the upper Middle Permian rocks at Shizipo in central Sichuan, South China.

This section is composed of four units; the Maokou Formation (> 100 m), Wangpo bed (ca. 1 m), mudstone (ca. 2 m), the Emeishan basalt (several hundred meters), in ascending order. The Maokou Fm mainly consists of bioclastic limestone, with a thin limestone conglomerate at the top.

The sporadic occurrence of fusulines gives the Wordian to Capitanian age to the 70 m-thick Maokou Fm at the studied section. The sedimentary characteristics indicate that the Maokou Fm was deposited mostly in a relatively deep shelf setting. The limestone conglomerate at its top indicates their exposure above the sea-level that likely has resulted in unconformity. The Maokou Fm generally yields abundant bioclasts of shallow marine biota, whereas the mudstone between the Wanpo bed and the Emeishan basalt lack them. This likely recorded the decline in biodiversity around the G-LB. The mass extinction of the G-LB occurred clearly earlier than the eruption of Emeishan flood basalt. Thus the latter could not be the cause of the G-LB extinction.

Keywords: mass extinction