

Litho- and SSF stratigraphy of the lowermost Cambrian of the Hongjiachong and Xiaolantian sections in East Yunnan, South China

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Metazoans diversified dramatically in a short time during the latest Ediacaran and earliest Cambrian. Animal of small shelly fossils (SSF) were the first group that diversified much earlier than the well-known Burgess/Chengjiang faunas. Biostratigraphy of SSF was best analyzed in Yunnan, S. China (e.g. Meishucun, Laolin, Xiotan) because of the abundant occurrence of SSFs from various depositional environments from extremely shallow to deep basin. This study carefully examined litho- and SSF stratigraphy of Hongjiachong section and Xiaolantian section in Chengjiang area Yunnan. The two studied sections consist of the Zhijiaqing Fm, Shiyantou Fm, and Yu' anshan Fm, in ascending order. The Zhijiaqing Fm is subdivided into Daibu Mb, Zhongyicun Mb, and Dahai Mb. Although the first and second SSF assemblages were recovered at the Hongjiachong section (Sato et al., 2014), the boundary between these two assemblages was not identified yet. The first assemblage occurred in the lower Zhongyicun Mb, but the overlying strata for ca. 20m thick are barren, except the second assemblage from the marker calcareous sandstone in the middle of Zhongyicun Mb.

To date, the following results were obtained from the Hongjiachong section; 1) second SSF assemblage occurs from a phosphorite bed 1m lower than the previously claimed the lowest horizon at the marker sandstone in the middle of Zhongyicun Mb, 2) one unique SSF specimen with particular shell structure was extracted from a phosphorite bed ca. 4 m lower than the marker sandstone. This fossil piece is ca. 1.5 mm long and in an elongated oval shape, probably representing a fragment of nearly symmetrical shell. Along the axial cylindrical pillar, multiple small plates are aligned obliquely along one side. These features are similar to those of the SSF, *Sinosachites (Thambetolepis) delicates* (JELL) reported from Lower Cambrian in S. Australia, which is correlated to relatively younger the Shiyantou and Yu' anshan formations in China. We will also report the litho- and SSF stratigraphy of drilled core samples (ca. 87 m deep) from the Xiaolantian section currently under analysis.

Keywords: Cambrian, SSF, Xiaolantian, Hongjiachong