Silurian conodonts from western Yunnan and southern Xizang (Tibet), China

Zhongyang Chen*,†, Peep Männik2, Xiang Fang1, Wenkun Qie1, Yichun Zhang1, and Yuandong Zhang1

1Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences, Nanjing 210008, China – China
2Department of Geology, Tallinn University of Technology, Tallinn 19086, Estonia – Estonia

Abstract

The Wenlock to Pridoli conodont biozonation has been well established in many areas of the world, but has not yet been studied in China. The Silurian succession in western Yunnan and southern Xizang (Tibet) is relatively continuous and complete, but conodont biostratigraphy in these regions has not been extensively researched.

In this study, conodont samples were collected from the Laojianshan section in Baoshan of western Yunnan and the Yalai West II section in Nyalam of southern Xizang. In the Laojianshan section, seven conodont zonal units were recognized in the "Lichaiba” and Niushiping formations, including the Pterospathodus amorphognathoides amorphognathoides Zonal Group, the Pterospathodus pennatus procerus Superzone (probably only the Lower Pterospathodus pennatus procerus Zone), the Ozarkodina sagitta sagitta Zone, the Kockelella orthus absidata Zone, the Kockelella crassa Zone, the Polygnathoides siluricus Zone and the "Ozarkodina" osteinhornensis s.l. interval Zone. Similarly, the Yalai West II section had five recognized conodont zonal units in the "Pulu Formation": the Ozarkodina sagitta sagitta Zone, the Kockelella crassa Zone, the Kockelella variabilis variabilis–Ancoradella ploeckensis Zonal Group, the Polygnathoides siluricus Zone and the "Ozarkodina" osteinhornensis s.l. interval Zone. Based on these conodonts as well as the graptolites from the underlying strata, the "Lichaiba Formation” was assigned to the upper Llandovery (upper Telychian)-upper Wenlock (upper Homerian), the Niushiping Formation to the Ludlow-Pridoli, and the "Pulu Formation” to the upper Llandovery (upper Telychian)-Pridoli.

The late Telychian conodont fauna from the Laojianshan section indicates a distal, open-shelf depositional environment. The widespread distribution of Wenlock to Pridoli conodont species in the Baoshan and Nyalam regions suggests that the cosmopolitan characteristics of the conodont fauna from this period were due to the circulation of ocean currents.

Keywords: conodont, Silurian, Sibumasu, Tethyan Himalaya

*Speaker
†Corresponding author: zychen@nigpas.ac.cn