Phosphatized calcified cyanobacteria from the latest Ediacaran and the early Cambrian

Xiao Min*[1]

[1]Chengdu Center of China Geological Survey – China

Abstract

Calcified cyanobacteria have only been sporadically discovered in the Neoproterozoic and did not appear widely until the early Paleozoic. It is proved that the abundance of calcified cyanobacteria is related to the change of atmospheric CO2 level and the calcium carbonate saturation of seawater. Description and systematic research of phosphatized calcified cyanobacteria in the Cambrian is rare, even though some phosphatized materials were reported. Anyhow, there is no report of phosphatized calcified cyanobacteria in the Precambrian except in the Gaojiashan biota. Both the Gaojiashan biota at the end of the Ediacaran and the Kuanchuanpu biota of the early Cambrian yield a variety of phosphatized calcified cyanobacteria assemblages. Especially the former fills the vacancy of calcified cyanobacteria all over the world during this period. These two biotas contain same calcified cyanobacteria such as *Girvanella*, *Obruchevella* and *Cambricodium*, and they are all phosphatized. Research on phosphatized calcified cyanobacteria of the Kuanchuanpu and Gaojiashan biotas, and a comparison of the similarities and differences, morphological features and occurrence modes of calcified cyanobacteria around the boundary provide important biological evidence for the calcification mechanism, the continuity of evolution of cyanobacteria and the changes of marine chemical conditions reflected by it during the critical transition period from the Precambrian to the Cambrian.

Keywords: Phosphatized calcified cyanobacteria, Gaojiashan biota, Kuanchuanpu biota, latest Ediacaran, early Cambrian

*Speaker