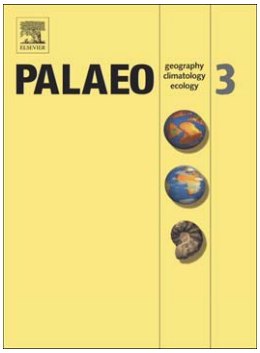

Dissecting *Calathium*-microbial frameworks: The significance of calathids for the middle Ordovician reefs in the Tarim Basin, northwestern China

Qijian Li, Yue Li, Yuandong Zhang, Axel Munnecke

PII: S0031-0182(16)30302-9
DOI: doi: 10.1016/j.palaeo.2016.08.005
Reference: PALAEO 7936

To appear in: *Palaeogeography, Palaeoclimatology, Palaeoecology*

Received date: 30 January 2016
Revised date: 29 July 2016
Accepted date: 2 August 2016

Please cite this article as: Li, Qijian, Li, Yue, Zhang, Yuandong, Munnecke, Axel, Dissecting *Calathium*-microbial frameworks: The significance of calathids for the middle Ordovician reefs in the Tarim Basin, northwestern China, *Palaeogeography, Palaeoclimatology, Palaeoecology* (2016), doi: 10.1016/j.palaeo.2016.08.005

Dissecting *Calathium*-microbial frameworks: the significance of calathids for the Middle Ordovician reefs in the Tarim Basin, northwestern China

Qijian Li[1,*], Yue Li[1], Yuandong Zhang[1], Axel Munnecke[2]

[1] Key Laboratory of Economic Stratigraphy and Palaeogeography, Nanjing Institute of Geology and Palaeontology, Nanjing 210008, China;

[2] GeoZentrum Nordbayern, Friedrich-Alexander University Erlangen-Nuremberg, D-91054 Erlangen, Germany;

*Corresponding author (Q.J. Li); E-mail: qijianli@hotmail.com

Abstract

As an obconical macrofossil with porous double-wall, *Calathium* was commonly present in reefs of Early to early Middle Ordovician age. The *Calathium*-bearing reefs thrived globally during the Early Ordovician, but this ecosystem collapsed in Middle Ordovician. A rare case of *Calathium*-microbial reefs was found from the middle part of the Yijianfang Formation (Darriwilian, late Middle Ordovician) of the Bachu area, located in the northwestern margin of the Tarim Basin, northwestern China. Surrounded by bioclastic grainstones, patch reefs here are well-developed and vary in size, with 1–4 m in thickness and 2–18 m in diameter. Three facies types are distinguished within the reef limestones: (1) *Calathium*-microbial framestone, (2) echinoderm-*Calathium*