Proterozoic-like/type basal Triassic microbial build-ups of unusual height in Armenia

A. BAUD[1], E. FRIESENBICHLER[2], L. KRYSTYN[3], L. SAHAKYAN[4] AND S. RICHOZ[2]

[1]BCG, Lausanne Switzerland (aymon.baud@unil.ch)
[2]Erdwiss. Inst., Univ. Graz, Austria
[3]Geozentrum, Pal. Inst., Univ. Wien, Austria
[4]Inst. Geol. Sciences of NAS, Yerevan, Armenia

The Griesbachian part of the Marmarasar Formation (Kara Baglyar) [1] in the Zangakatun (Sovetachen) section (Armenia) is characterized by microbial build-ups, spaced from 5 to 20m and surrounded by thin-bedded platy lime mudstone in a deep ramp environment. Above a basal carbonate fan crust follows a succession of thrombolitic domal forms, some of them up to 1.5m thick. The synoptic relief of the thrombolite head is estimated at 40-60cm above the muddy sea bottom. The overturned cone-shaped build-up geometry has a top head diameter up to 8m width consisting of numerous thrombolite domes, and an usual height of up to 15m. The water depth is interpreted below storm wave base and the asymmetrical build-up growth hints to a steady bottom current. Changes in the paleo-environment at the top of the *kummeli* conodont zone end the thrombolite growth. The overall duration of these post-extinction microbial build-ups is estimated at 700'000 years. Comparable Late Proterozoic *Conophyton-Jacutophyton* biostromes of the Atar area (Mauritania) [2], grown in apparently similar 80-100m water depth with quiet conditions, also show a high synoptic relief here of more than 2m above sea-bottom and decametric columnar branching build-ups. Due to a similarly large accommodation space the Zangakatun microbial reefs seem to follow the same build-up strategy.

[1] Zakharov et al. (2005), *JCUG* **16**, 141-151. [2] Bertrand-Sarfati et al. (1999), *ASF Bull*. **31**, 1-103.