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BASAL INDUAN (EARLY TRIASSIC) GIANT SPONGE-MICROBIAL BUILD-UPS IN ARMENIA: MICROFACIES ANALYSES AND CARBON ISOTOPE STUDIES

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The Transcaucasia area (central Armenia) offers the opportunity to study a distinctive sponge-microbial community development in the aftermath of the end-Permian mass extinction (Permian-Triassic Boundary sponge-microbialites PTBSM): isolated communities started to built vertical edifices up to 12 m high during Griesbachian times (Induan, Lower Triassic), and show two growth phases within a pelagic carbonate ramp. The first sponge-microbial build-ups, which are rich in sponge spicules, co-occur with impressive calcium carbonate crystal fans (CCFs) that vary in thickness between 5 cm to 2 m. A comparison between the $\delta^{13}C$ values from the PTBSM that formed during the first growth phase and the surrounding sediment revealed a remarkable differences: the $\delta^{13}C_{microbialite}$ values are up to 2.3‰ more positive than the corresponding $\delta^{13}C_{sediment}$ values.

During the second sponge-microbial growth phase, numerous thrombolitic domes with specific internal structures were formed. The highest growth reaches a total height of up to 12 m with an 8 m top head diameter. Its asymmetry indicates a steady bottom current condition, which also contributes to the concomitant deposition of thin bedded bioclastic lime-wackestone containing ostracods, foraminifers, gastropods, bivalves as well as ammonoids, and to the embedding of the PTBSM. Within these buildups the $\delta^{13}C_{microbialite}$ and $\delta^{13}C_{sediment}$ values are nearly the same, which is a remarkable contrast to the sponge-microbial build-ups that formed during the first microbial growth phase.

Regarding the growth phase duration, instead of a Lower Griesbachian microbialite short existence found in South China as in South Turkey, the Armenian PTBSM growth extends all over the Griesbachian from *parvus* to *krystyni* conodont zones, which is at least twice as long.

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T144. The Permian-Triassic Crisis and Its Aftermath: Biotic, Climatic, and Environmental Upheavals
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