ACTA PALAEONTOLOGICA POLONICA

Stromatoporoid stromatolites; new insight into evolution of cyanobacteria

Józef Kaźmierczak
Acta Palaeontologica Polonica 25 (2), 1980: 243-251

Common enigmatic fossils called stromatoporoids are recognized as calcareous stromatolitic structures build by coccoid cyanobacteria (= Cyanophyta). The diversified internal structures of stromatoporoids reflect various growth patterns of cyanobacterial cell aggregates or colonies preserved due to a rapid *in situ* calcification. Stromatoporoid stromatolites are evolutionary advanced descendants of early precamprian stromatolites generated by weakly differentiated stratiform mats of coccoid cyanobacteria. The presence of stromatoporoid stromatolites in ancient subtidal environments, often in association with normal marine biota, is a non-actualistic phenomenon which needs to be explained in other than present-day ecological terms.

Key words: Cyanobacteria, evolution, stromatolites, stromatoporoids.

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