2009年度 第15回

地質学セミナー

日時：12月16日（水）
17時～
場所：総合研究棟B棟 110 教室

シアノバクテリア培養によるストロマトライト様構造の室内形成 -細胞外分泌物（多糖類）の重要性

発表者① 生物圏変遷科学分野 研究員 山本純之

In vitro formation of stromatolite-like domes by cyanobacterial culturing: significance of extracelluler polysaccharides

Morphology of stromatolites is likely influenced by sedimentary environments and their builders,probably cyanobacteria. Previous studies on stromatolites and their sedimentary facies clarified closerelationships between the morphologies and the sedimentary environments; however, relationshipsbetween the morphologies and cyanobacterial activity are still unclear. In order to reveal this relationship, ten strains of cyanobacteria were cultured for more than half a year and the structureson their biomats were carefully observed. Two out of the ten cyanobacteria strains were formedstromatolite-like centimeter-scale domes, three formed millimeter-scale cones, and the remainingfive did not form any remarkable structures. The domes were produced only by cyanobacteriawhich secrete a large amount of extracelluler polysaccharides (EPS). The interior of the domes isfilled with a large amount of EPS, and the domal structures were preserved for more than a year. Themorphology of individual dome and their spatial arrangement highly resembled those of somePrecambrianstromatolites, such as Collenia. The results may suggest that the production of EPS isimportant for the formation of Precambrian domal stromatolites, and that EPS-secretingcyanobacteria was the main producer of domal stromatolites.

（座長；川村好毅）

年内のセミナーは本日で終了です

次回のセミナーは
日時：1月20日（水） 17時より

発表者： 八木勇治准教授

座長：未定(決まり次第,連絡します)

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