

## Origin of stromatolite in the 2.7 Ga Jeerinah Formation, western Australia

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The texture of the present-day stromatolites are formed by the action of micro-organisms. It has been debated if Archean stromatolites have similar biogenic origin. Non-biological origin, thus chemical sediments from hot springs, is becoming the most popular model.

Stromatolites are found in the sandstone sequence of the 2.7 Ga Jeerinah Formation, western Australia. Abundant pyrite crystals were found in the stromatolite samples. Sulfur isotope compositions of individual pyrites were analyzed using Nd-YAG laser.

Sulfur isotope compositions of pyrite crystals in 2.7 Ga stromatolite indicate that pyrites in the stromatolite were formed by the action of sulfate-reducing bacteria. The new data also support the hypothesis of biogenic origin of the Archean stromatolite.