

## Fine Laminated Structure of Stromatolite Suggests Seasonal Climate Change in Cretaceous Period

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I studied the causes of the fine laminated structure of the Cretaceous Stromatolite which was collected in the Andes in Bolivia. The structure consists of alternately laminated light colored laminae and dark colored laminae. The light colored laminae are made up of crystallized, grown  $\text{CaCO}_3$  grains. The dark colored laminae are composed of rounded fine grained Carbonate clastics. In short, crystallization and deposition of  $\text{CaCO}_3$  form the two different laminae.

I predict that the photosynthesis of Cyanobacteria can be related to the different forming of the laminae. In winter, when the photosynthesis becomes inactive, the concentration of  $\text{CO}_2$  in seawater becomes high. During this period, fine grained Carbonate clastics deposit on the surface of the Stromatolite. In contrast, the concentration of  $\text{CO}_2$  in seawater becomes low because the photosynthesis becomes active in summer. During this period,  $\text{CaCO}_3$  crystalize on the surface of the Stromatolite. In conclusion, the light colored laminae are formed in summer, and the dark laminae are formed in winter.

I suggest the fine laminated structure of Stromatolite is caused by the seasonal climate change in the Cretaceous period.

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