

Algal Mounds Walk

- Stromatolites is the term for these mounds. As this text in the next slide explains, they grew in shallow seas and were very common 500+ million years ago. Today, because of life forms that developed and which graze on them, they are very rare, only found in a few locations across the globe in tropical seas. No where except at Shark Bay, W Australia, can they be seen today as the extensive prominent mound shaped features which were a dominant life form on earth for literally well over a billion years.

Description of Stromatolites

- Shark Bay is a large embayment off the Indian Ocean located a long day's drive north of Perth along the North West Coastal Highway that crosses arid Western Australia. This bay has become somewhat of a *sanctum sanctorum* for sedimentary geologists because it is the only place in the world where the living [algal mounds called stromatolites](#) approach the dimensions and the variety of shapes they achieved during their heyday in the Precambrian. First discovered here in the late 1950s, the best stromatolites in Shark Bay are found in the intertidal zone along an inner lagoon called Hamelin Pool. They flourish here because the high salinity -- twice that of normal sea water -- keeps out algal grazers such as chitons and snails. The shape and size of the Hamelin Pool stromatolites are directly controlled by the immediate environment. Large mushroom-shaped stromatolites grow at headlands where waves and tide scour approach from different directions. Loaf-shaped stromatolites occur in protected bights perpendicular to the shore.
- Stromatolites are solid cauliflower-shaped structures built by consortia of microbes. A thin sticky carpet of oxygen-producing photosynthetic cyanobacteria coats the sunlit top surface while microbes that depend on fermentation survive in the dark recesses just below. The cyanobacterial carpet traps sediment and also promotes the precipitation of carbonate to build up solid cauliflower-shaped structures. Because their growth is controlled by tides, temperature and sunlight, stromatolites are rhythmically laminated on the sub-millimetre scale.

Modern Day Shark Bay, Western Australia



http://en.wikipedia.org/wiki/File:Stromatolites_in_Sharkbay.jpg



