



Figure 11. Distribution of various stromatolite geometries in Shark Bay, Western Australia. True, horizontally laminated algal mats are found only in the supratidal area in this locality; mound, column, and pedestal forms result from wave and current action in the intertidal and subtidal areas.

### Chemical Stratification

Chemical processes are responsible for primary stratification in many chemically precipitated sedimentary rocks, such as dolomites, some limestones, evaporites, cherts, ironstones, and phosphorites. Chemical precipitation of crystals either directly on the seafloor or in the water column determines the composition of the layers. The rate of precipitation and settling, the duration of precipitation, and crystal size determine the thickness of the resulting layers. These layers are described as beds, laminae, etc. like any other primary stratification using the McKee and Weir (1953) scheme (Figure 1).

Stratification produced by chemical precipitation will be horizontal. Cross-stratification of crystalline layers in chemical rocks indicates physical reworking of the crystals at some later time. Size grading of crystals within layers, however, can be entirely chemical in origin, reflecting some change in the crystallization process rather than a change in hydrodynamic conditions as in siliciclastic rocks and limestones.

### EROSION AND IMPRINT FEATURES

These are structures formed by the erosive actions of waves and currents and by solid objects in transport across the seafloor surface.