

13.9 RESEMBLANCES AND DIFFERENCES

13.9.1 Resemblances between Red Algae and Blue-Green Algae

Both Rhodophyceae and Myxophyceae resemble each other in the following points:

1. Both have some accessory pigments such as phycocyanin and phycoerythrin
2. Both lack flagellated stages in their life-cycle
3. Chemical structure of Myxophycean starch of Myxophyceae and Rhodophycean or Floridean starch of Rhodophyceae is more or less similar
4. Microfibrillar walls of both are mainly composed of xylans
5. Photosynthetic thylakoids are widely separated from each other in both
6. Principal constituent of mucilage are same in both
7. The pattern of the fatty acid accumulation is affected neither by ageing of thallus nor by the scarcity of nitrogen

13.9.2 Differences between Rhodophyceae and Myxophyceae

1. Rhodophyceae are eucaryotic whereas Myxophyceae are procaryotic
2. Besides the other pigment differences chlorophyll-d is present in red algae but absent in blue-green algae
3. Golgi bodies and endoplasmic reticulum are present in Rhodophyceae but absent in blue-green algae
4. Chromosomes are present in Rhodophyceae but absent in Myxophyceae
5. Heterocysts are absent in Rhodophyceae but present in Myxophyceae
6. Sexual reproduction of highly elaborate type is present in Rhodophyceae but totally absent in blue-green algae.