BASIC KNOWLEDGE IN MARINE SCIENCES

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Introduction

Microalage is small in size ranging from few micron to about 1 mm. The cell morphology varies from unicell, colonies or filament. They can be found in almost all habitat. Microalgae is very important in many aspect and nowdays has become important subject especially concerning biofuel and carbon footprints. Microalgae has been suggested as a potential candidate in solving these problems.

In this chapter, only a few important taxa of microalgae will be discussed.

Cyanophyceae/Cyanobacteria (Figs 1A & B)

Cyanobacteria has been reported to occur on earth billions of years ago and can be considered as one of the earliest algae on earth. Cyanobacteria appears blue to green color due to pigments phycocyanin and allophycocyanin. Recent studies have suggested that the ability of algae and plant to perform photosynthetic activitiy is by gaining plastid from cyanobacteria through endosymbiont process. Cyanobacteria can be found in many habitats whether in terrestrial or in aquatic environments. They can be found in lakes, river, pond, ocean, tidal pool, soil, on rock and trees. One of the important criteria of cyanobacteria is the ability of the species to do nitrogen fixation. Cyanobacteria produce a thick wall cell called heterocyst, in which the cell can perform nitrogen fixation by converting nitrogen gas into ammonia (NH_3), nitrites (NO_2) or nitrates (NO_3) (Van Den Hoek *et al.*, 1995). The formation of heterocyst is enhanced when the environment is less eutrophic. This gives an advantage to cyanobacteria over other algae and therefore increases the chance of survival of cyanobacteria. Another important structure in