forms the more immediate progenitors of which lived a terrestrial or littoral existence, and which, having taken to Pelagic habits, have become modified only in less important particulars of their structure to suit their new habits of life.

The surface water of the open ocean is full of vegetable life. Diatoms are to be gathered in the surface net everywhere, and in high northern and southern latitudes * they abound extremely, so as to colour the ice with their *débris*, change the tint of the water, fill the towing-net up with slimy masses, and cover the deep-sea bottom with a silicious deposit of their skeletons.

In tropical seas, other lowly organized algæ especially abound; mainly *Oscillatoriæ*, of the genus *Trichodesmium*. These algæ occur in the water as small brown faggots of minute threads, resembling, as Mr. Berkeley says, minute fragments of chopped hay. Together with these forms others often occur in which the threads are gathered into small globular masses with the ends of the threads all directed outwards. When tracts of the sea are passed through, which are full of this *Trichodesmium*, the water lighted up by sunlight, when looked down into, appears as if full of small particles of mica, or some such substance, so strongly is the light reflected from the minute bundles of the algæ.

We met with this alga in greatest abundance in the Arafura Sea, between Torres Straits and the Aru Islands. Here it was at first encountered discolouring the sea-surface in bands and streaks; as the ship moved farther on it became thicker, and at length the whole sea, far and wide, was discoloured with it. It remained still, however, denser in long streaks, and within these again it was massed in small patches. There was a strong smell from these patches, as from a pond covered with vegetation. So abundant is *Trichodesmium* in some seas, that one of the explanations of the name of the Red Sea is that the term was derived from the discoloration of the water by vast quantities of *Trichodesmium erythræum*.

On the voyage from Ternate to the Philippine Islands, the sea was again seen to be full of minute algæ. In this case there were several other forms beside *Trichodesmium*, and they were embedded together in small masses of a jelly-like substance, which also contained Diatoms. The water was perfectly full of these masses, and tinted by them of a light brownish colour.

Besides these smaller algæ living in the open ocean, there are abundance of several species of larger seaweeds which are Pelagic in habit. The Gulf Weed, *Sargassum bacciferum*, of

See p. 216.