

the Sargasso Sea in the Atlantic, is well known. It is brown when dried or preserved, but when living is of a very bright yellow colour, which contrasts pleasingly with the deep blue of the open Atlantic. Another seaweed (*Fucus vesiculosus*) is to be found also living free in the Atlantic, and the Giant Kelp (*Macrocystis pirifera*), in the floating condition, ranges over a wide belt of the Southern Ocean, as has been proved by Sir Joseph Hooker.*

All these seaweeds grow attached to rocks on various shores as well as free, but none produce spores except when attached. The Pelagic varieties multiply only by simple growth and subdivision. A wide area covered with seaweeds corresponding to the Sargasso Sea occurs in the North Pacific Ocean.

Were it not for the existence of this vast Pelagic vegetation the Pelagic fauna would be but a scanty one, since the *débris* derived from the land could only support a small amount of animals. Plants are as necessary in the open sea as on land to form the starting-point of the organic cycle by building up those compounds required by animals as food. The algæ, though brown in appearance, contain and build up *Chlorophyll*, the same green colouring matter as that which tinges the leaves of our trees and plants on land, and which is now the only starting-point and foundation-stone of life.

The Sargasso Sea has its own fauna of animals specially adapted to life amongst the Gulf Weed. Amongst these there is a small fish, *Antennarius*, allied to the Angler, which has long arm-like fore-fins with which it clings on to the bunches of Weed. The fish makes a nest of the Weed, binding together a globular mass of it, as big as a Dutch cheese, by means of long sticky gelatinous strings, which it forms for the purpose. In the centre of the nest are deposited the eggs.

The Weed is much encrusted by a Bryozoon (*Membranipora*), which makes conspicuous white patches upon its surface. Numbers of the detached air-vessels of the Weed are to be seen floating about amongst the living Weed-beds, coated entirely with the white *Membranipora*, and they look at first like small globular Pelagic animals.

All the inhabitants of the Gulf Weed are most remarkably coloured, for purposes of protection and concealment, exactly like the Weed itself. The Shrimps and Crabs which swarm in the Weed are of exactly the same shade of yellow as the Weed, and have white markings upon their bodies to represent the patches of *Membranipora*. The largest shrimp occurring has a dark brown colour with sharply defined areas of brilliant white upon its surface, thus closely resembling the older darker-

* "Flora Antarctica," Vol. I., pp. 464, 465.