

spreading lichen-like. Species of these forms belong to the genus *Melobesia*.

They have the aspect of ordinary coral, especially the *Millepores*, but may be distinguished from these species by their having no cells, not even any of the pin-punctures of those species.

Besides the more stony kinds, there are delicate species, often jointed, called *Corallines*, which secrete only a little lime in their tissues, and have a more plant-like look. Even these grow so abundantly on some coasts, that, when broken up and accumulated along the shore by the sea, they may make thick calcareous deposits. Agassiz has described such beds as having considerable extent in the Florida seas.

## V. THE REEF-FORMING CORALS AND THE CAUSES INFLUENCING THEIR GROWTH AND DISTRIBUTION:

### I. DISTRIBUTION IN LATITUDE.

Reef-forming species are the warm-water corals of the globe. A general survey of the facts connected with the temperature of the ocean in coral-reef seas appears to sustain the conclusion that they are confined to waters which, through even the coldest winter month, have a mean temperature not below 68° F. Under the equator, the surface waters in the hotter part of the ocean have the temperature of 85° F. in the Pacific, and 83° F. in the Atlantic. The range from 68° F. to 85° F. is, therefore, not too great for reef-making species.

An isothermal line, crossing the ocean where this winter temperature of the sea is experienced, one north of the equator, and another south, bending in its course toward or from the equator, wherever the marine currents change its position, will include all the growing reefs of the world; and the area of waters may be properly called the *coral-reef seas*.

This isothermal boundary line, the *isocryme* (or cold-water line) of 68° F., extends, through mid-ocean, near the parallel