

BATHYMETRICAL LIMITS TO DISTRIBUTION.

It has usually been considered that the growth of Reef-Corals is limited to depths of from 1 to 30 fathoms. This conclusion has been much shaken in recent years, and the light thrown upon the question by species obtained by the Challenger, tends to show that the depth limits will have to be extended.

Five species were obtained from depths ranging to more than 30 fathoms.

<i>Trochoseris stokesi</i>,	.	.	.	.	.	.	30 to 70 fathoms.
<i>Domoseris regularis</i>,	.	.	.	.	.	.	30 to 70 fathoms.
<i>Porites lichen</i>,	.	.	.	.	.	.	1 to 40 fathoms.
<i>Montipora capitata</i>,	.	.	.	.	.	.	1 to 40 fathoms.
<i>Pocillopora nobilis</i>,	.	.	.	.	.	.	10 to 40 fathoms.

And while it may be doubted whether the two former species play any considerable part in reef-formation, it must be acknowledged that the three latter are definite reef-builders. It seems tolerably certain, however, that the zone of most active growth is confined to comparatively shallow waters, at depths of 1 to 20 fathoms.

THERMAL LIMITS TO DISTRIBUTION.

An interesting fact in relation to this question has been brought to light by the Challenger—namely, that a specimen of an undoubted reef-building species, *Manicina areolata*, was obtained in Simon's Bay, Cape of Good Hope, between lat. 34° and 35° S., at a depth of 10 to 20 fathoms, the temperature at that depth being 65° (Challenger observations). The thermal limit of 68°, which has usually been considered the lowest temperature limit to regulate the distribution of reef-building forms, may still be held to be the extreme limit for reef-formation, which results from the luxuriant growth of the reef-building species. It is evident, however, that these species, independently of reef-formation, may have a wider range. In this relation special reference must be made to the fact of the occurrence of a species of *Madrepora*, *Madrepora borealis*, Edw. and H. (Milne-Edwards and Haime, Cor., iii. p. 144), in the cold waters of the White Sea, near Archangel, the type specimen of which, collected by Mons. Eugène Robert in 1829, I have seen in the Paris Museum, and which has since been examined again for me by Mons. Poirier of the Paris Museum; a fact which is the more remarkable in that the species of *Madrepora*, with this exception, are characteristic of the warmest waters of the reef regions. It seems to me that considering the thermal conditions under which these two species, *Manicina areolata* and *Madrepora borealis*, are known to have developed, we are on the threshold of the knowledge as to the distribution in place of those forms which, in the warmer tropical waters, are confined to within comparatively narrow limits as reef-builders.

The occurrence of such a characteristic West Indian Reef-Coral as *Manicina areolata*