

observations of various voyages with those of the Expedition, the author has been enabled to draw these boundary lines with a considerable degree of accuracy, and they are laid down upon the chart of the world published in his Report (Wilkes's Exploring Expedition) on Geology, and, with other isocrymal lines, on a full isocrymal chart of the globe, in his Report on Crustacea, from which it was reproduced in volume xv. (1853) of the second series of the *American Journal of Science*, which is now again issued at the close of this volume.

In the Pacific Ocean, this coral boundary, or isocryme of  $68^{\circ}$ , excludes the Galapagos from the coral seas, making a bend around them, and passing for a short distance even north of the equator, instead of near the parallel of  $28^{\circ}$  south, its position in mid-ocean. Captain Fitzroy, R.N., found the surface temperature of the sea at the Galapagos, from Sept. 16 to Oct. 18, 1835,  $62^{\circ}$  to  $70^{\circ}$  F. Oct. 23, in lat.  $0^{\circ} 30' S.$ , and long.  $99^{\circ} 4' W.$ , the temperature of the sea was  $66^{\circ}$  F.; Oct. 24, lat.  $0^{\circ} 23' N.$ , long.  $96^{\circ} 53' W.$ , temp.  $70\frac{1}{2}^{\circ}$ ,  $71\frac{1}{2}^{\circ}$  F. While, under the equator, about the middle of the Pacific, the range of surface temperature of the sea through the year is  $81^{\circ}$  to  $88^{\circ}$  F.

On the side of Asia the boundary line bends far southward, and reaches the coast of Cochīn China within  $15^{\circ}$  of the equator, although  $30^{\circ}$  from the equator a little to the eastward. On the west side of the Atlantic, the northern line starts at Cape Florida, in latitude  $15^{\circ} N.$ , stretches abruptly northward, and bends around the Bermudas in latitude  $33^{\circ} N.$  On the African coast opposite, the northern line curves downward to the latitude of the Cape Verds, and the southern upward nearly to the equator. The following table gives the positions of the coral boundary lines where they meet the coasts of the continents:—

	Pacific Ocean.	Atlantic Ocean.
East side of ocean—Northern,	Lat. $21^{\circ} N.$	Lat. $10^{\circ} N.$
Southern.	$4^{\circ} S.$	$5^{\circ} S.$
West side of ocean—Northern.	$15^{\circ} N.$	$26^{\circ} N.$
Southern.	{ $30^{\circ} S.$ , N. Holland. $29^{\circ} S.$ , Africa	} $22^{\circ} S.$