

## DISCUSSION OF THE DISTRIBUTION OF THE TETRACTINELLIDA.

The data at our disposal are as yet altogether inadequate for an independent and complete discussion of the problem of the distribution of the Tetractinellida; the number of recorded species is certainly large, but far from being large enough, and though they have been gathered from many localities, yet there are wide areas from which not a single species is known. But even were it otherwise, it would probably be scarcely prudent to undertake the investigation of the question of distributional areas on the facts presented by a single group of sponges, and that not a very large one.

At the same time I may be permitted to point out certain coincidences and to offer some suggestions.

In the first place, as a glance at the appended map will show, all the stations from which Tetractinellida have been obtained are situated, quite irrespective of depth, at no great distance from land. The course of the Challenger is indicated by a long train of dredgings, unsuccessful as regards the capture of Tetractinellids, till the approach of land, and then the red circle indicative of a successful haul at once appears. This would not be a fact of any special significance if the Tetractinellida, like the *Calcarea* and *Ceratosa*, were exclusively shallow-water forms, but it acquires great interest when we find that characteristically deep-water forms, like the species of the genus *Thenea*, are similarly confined to the vicinity of land; these species have been obtained nine times from depths between 1000 and 2000 fathoms, but in every instance they were found near the shores of some continent or island. Out of one hundred and forty-four dredgings between 1000 and 2000 fathoms, the Challenger eight times obtained species of *Thenea* near land, but not one at any great distance from it. In the case of the Hexactinellida, Schulze states that they were indeed found in the middle of the great oceans, but "generally speaking the abundance of species was least at a distance from the mainland, and in the middle of the great oceanic basins, than in the neighbourhood of the continent or island groups." The Monaxonida in the same way cling to the land, though with more frequent exceptions than in the case of the Tetractinellida; in the North Atlantic the statement is true without an exception; in the South Atlantic, with one, as at Station 332, where, remote from land, from a depth of 2200 fathoms, a single species was obtained; in the Indian Antarctic it is likewise true with a single exception, that of Station 157, which yielded one species from a depth of 1500 fathoms; the Pacific furnishes four exceptions, three stations at a considerable distance from land yielded each one species from depths of between 2000 and 3000 fathoms, these are Station 241, 246, and 248; and a fourth, Station 291, two species from a depth of 2250 fathoms. Stations 241, 246, and 248 ought perhaps not to be reckoned as exceptions, since they are within 300 miles of coral reefs, and I have regarded in the case of *Thenea*