

does to the Geodiidæ. Subsequent examination has convinced me, however, that the analogy here suggested is misleading, and that the Tethyidæ are in all probability Monaxonid sponges. As this conclusion was not reached till my description of the family was completed, an account of it is given in an Appendix to this Report.

The Tetractinellid sponges of the Challenger collection are in an excellent state of preservation, all but some ten or twelve being preserved in strong alcohol; so that I have been enabled to make a thorough investigation of the minute as well as the coarse anatomy of almost every species. This has been a work involving some labour: several thousands of thin slices have been cut, and hundreds of other preparations made according to methods which will be found described in the chapter on Technique.

As no complete system of the Tetractinellida has yet been published, I gladly availed myself of Mr. Murray's kind permission to enlarge the scope of this Report by including an account of all other species of Tetractinellida known to me, besides those contained in the Challenger collection. These additional species are treated separately in appendixes to each family.

The number of species and varieties of Tetractinellida obtained by the Challenger is 87, of which 73 are new to science; they are arranged in 38 genera, of which 18 are new; of additional species described in this Report there are 221, and of additional genera 45, of which 15 are new.

The total number, therefore, of described species of Tetractinellida, inclusive of the doubtful family Epipolasidæ, is 294, and of accepted genera 81.

My best thanks are due and heartily tendered to those distinguished zoologists who have helped to render a system of the Tetractinellida possible by furnishing me with the requisite material. To Professor Agassiz I am especially indebted since he sent me across the Atlantic the whole, or nearly the whole, of the "Hassler" collection of Lithistids, including many unique specimens, the originals of O. Schmidt's descriptions, and no less to Professor von Graff, who, with a generosity which I can only refer to as lavish, furnished me with an almost complete series of examples from O. Schmidt's types of Adriatic sponges. I am also deeply indebted to Professor Perrier of Paris and Dr. Ernest Ziegler of Strasburg for many examples of other sponges described by O. Schmidt, and to Professor Stewart who gave me every assistance in the examination of specimens described by Bowerbank and now preserved in the Royal College of Surgeons. Especial thanks are due to Mr. S. O. Ridley, who has constantly helped me to specimens, and who placed at my disposal for examination all the specimens in the fine collection of Tetractinellid sponges preserved in the British Museum, where are to be found most of Bowerbank's species, and specimens of many of Carter's and O. Schmidt's, together with a host of miscellaneous examples, all well arranged and readily accessible,—thanks to Mr. Ridley's labours in this department. To my friend and colleague Professor E. Perceval Wright, who presented me with parts of several important type specimens,