flagellated chambers of the sponges. Perhaps I might not have arrived at that conclusion had I not, ten years before, examined a number of Australian arenaceous sponges, which seem to be closely allied to these deep-sea inhabitants collected by the Challenger in different parts of the world. At that time I was engaged with the Monograph of the Medusæ, and therefore offered the description of those Spongelidæ or Dysideidæ to my friend and pupil, Professor William Marshall of Leipsic. He has given a full description and figures in the Zeitschr. f. wiss. Zool., Band xxxv., 1880.

Dr. John Murray, who, during the cruise of the Challenger, had seen these Deep-sea Keratosa immediately after capture, had at once and rightly recognised their sponge-nature. I find in his handwriting on the labels of the bottles in which all the large forms are preserved the title "Sponges," but afterwards another naturalist crossed this name out and wrote "Large Rhizopods."

Dr. Poléjaeff, of Odessa, commences his Report on the Keratosa collected by H.M.S. Challenger (Zool. Chall. Exp., vol. xi., part xxxi.) with the following words:—"The Keratose Sponges do not belong to the deep-sea fauna." This statement must now be given up in every case. The number of Deep-sea Keratosa described in this Report extends to eleven genera, with twenty-six species, all of which are new, more than half the number (34) distinguished by Poléjaeff among the Keratosa collected by the Challenger in shallow water; of these twenty-one were new. Whilst all these latter belong to genera previously known, the majority of the new deep-sea species belong to new genera, and some of them exhibit such a peculiar organisation that they may represent some new subfamilies, or even families, among the Keratosa. Twenty-three of the twenty-six species were taken in depths between 2000 and 2900 fathoms; three only (Psamminidæ) in depths between 1000 and 2000 fathoms. I suppose that some of the gigantic Foraminifera of the deep sea, which Mr. H. B. Brady has described in his Report as Astrorhizidæ (especially *Rhabdammina*, *Rhizammina*, *Sagenella*, &c.), may also belong to the arenaceous Keratosa (Ammoconidæ).

The results of my examination of the Deep-sea Keratosa, which are given in the following Report, were communicated to the Medicinisch-Naturwissenschaftliche Gesellschaft in Jena on the 14th December 1888.