In addition to the Foraminifera, the Radiolarians with siliceous or chitinous tests represent another class of Protozoa which come under consideration in palæontological researches. The knowledge of the Radiolaria does not extend so far back as that of Foraminifera. The earliest accounts of these microscopically minute organisms were given by Tilesius (1806) and by Meyer (1834); but Ehrenberg was the first investigator who disclosed the wonderful variety and beauty of their siliceous skeletons. In a series of special monographs and magazine articles extended over a long period of years from 1838 to 1875, Ehrenberg described many hundred forms belonging to this group, which he had called Polycystina. His material had been collected from recent oozes on the ocean-floor, and from the Tertiary marls of Sicily, Zante, Oran, North America, and Barbadoes, the last-mentioned locality alone providing 278 species. But Ehrenberg had very obscure notions about the organisation of the Polycystina.

The living structure and the systematic position of this group were elucidated by Huxley in 1851. A fuller exposition of the zoological aspects was given in 1855 by Johann Müller, who suggested the term of Radiolaria as better suited for the group than Ehrenberg's name of Polycystina. The beautifully illustrated monograph of the Radiolaria by Ernst Haeckel erected a complete classificatory system for the Radiolaria, and won universal admiration for the artistic representations of the infinite diversity in the skeletal forms produced by these simple organisms.

Haeckel's works are chiefly devoted to recent Radiolaria, and at that time, in 1862, science was only cognisant of the occurrence of fossil Radiolaria in the Tertiary deposits. Zittel, in 1876, described some older forms from Upper Cretaceous strata, and between 1885 and 1892 D. Rüst carried out a long series of researches, preparing microscopic sections of siliceous rocks from all the geological formations; he succeeded in demonstrating the presence of numerous Radiolarian species from the Cambrian or oldest Palæozoic formation onwards to the present age.

Brief mention must be made of a controversy that arose regarding certain structures thought to represent the oldest known animal organism. In the year 1858 MacCulloch collected in the Laurentian gneiss of Canada curious aggregates of serpentine and calcite, arranged in irregular alternate