56. 1879. Wallich, G. C., Observations on the Thalassicollidæ. *Ann. and Mag. Nat. Hist.*, ser. 4, vol. iii. p. 97.

57. 1866. Stuart, Alexander, Ueber Coscinosphæra ciliosa, eine neue Radiolarie (= Globigerina echinoides !!). *Zeitschr. f. wiss. Zool.*, Bd. xvi. p. 328, Taf. xviii. (Compare L. N. 26, p. 9.)

58. 1870. Stuart, Alexander, Neapolitanische Studien. *Göttinger Nachr.*, p. 99, and *Zeitschr. f. wiss. Zool.*, Bd. xxii. p. 290 ("Blue Siliceous Crystals" in Collozoum inerme !).

59. 1871. Macdonald, John Denis, Remarks on the Structure of Polycystina (Astromma Yelvertoni = Euchitonia Mülleri). *Ann. and Mag. Nat. Hist.*, ser. 4, vol. viii. p. 226.

60. 1871. Doenitz, W., Beobachtungen über Radiolarien. *Archiv f. Anat. u. Physiol.*, 1871, p. 71, Taf. ii. (Compare L. N. 26, p. 7.)

252. *Progress of our Knowledge of the Radiolaria from* 1862 *to* 1885.—The history of our scientific knowledge of the Radiolaria extends over about half a century (from 1834 to 1885). A historical and critical discussion of the works which appeared within the first twenty-eight years of this period (from 1834 to 1862) is contained in the historical introduction to my Monograph (L. N. 16, pp. 1–24); I shall therefore give here only a brief survey of the investigations published during the last twenty-three years (from 1862 to 1885). The most important steps in our progress during this period we owe to the following naturalists:—Cienkowski (1871), Ehrenberg (1872 and 1875), Richard Hertwig (1876 and 1879), Karlt Brandt (1881 and 1885), Bütschli (1882), and Rüst (1885). To the valuable works of these authors must be added a number of smaller contributions, which are recorded in the foregoing Bibliography. Some communications from dilettanti, written with insufficient knowledge of the subject, and hence of no value, are mentioned for the sake of completeness in the "Phaulographic Appendix" (compare L. N. 55–60, also L. N. 26, p. 9).

The first important advance in our knowledge of the organisation of the Radiolaria, made after the publication of my Monograph (1862), was the demonstration of the nature of the extracapsular "yellow cells." In the year 1870 I showed that these yellow cells contain starch (L. N. 21, p. 519). I regarded them, as did all authors up to that time, as integral parts of the Radiolarian organism, and hence considered this to be multicellular; for no doubt was possible regarding the true cellular nature of these remarkable, nucleated, yellow globules, which I had thoroughly studied in 1862. It was first shown by Cienkowski in 1871 that the yellow cells of the Collodaria remain unchanged even after the death of these organisms, "that they continue to grow uninterruptedly, and eventually multiply by division" (L. N. 22, pp. 378–380, Taf. xix. figs. 30–36). Cienkowski concluded from these important observations that the yellow cells are not integral parts of the Radiolarian body, but "parasitic structures," independent, unicellular organisms, which live only as parasites in the body of the Radiolaria (compare § 90).

This important recognition underwent ten years later a further development and complete establishment by the extensive investigations of Karl Brandt (L. N. 38, 39