

shell. Eighteen other spines (disposed according to the Müllerian law of Icosacantha) much smaller, often rudimentary. Central capsule ellipsoidal or diploconical.

The family *Diploconida*, founded by me in 1862 for a single Mediterranean species (*Diploconus fascies*), appears to be the most aberrant and strange form among the ACANTHARIA. As I had met with only a single specimen, very dark and intransparent in its central part, my observations on its structure were imperfect and the explanation of it partly erroneous (compare my Monograph, pp. 46, 404, Taf. xx. figs. 7, 8). However, I regarded *Diploconus* as the representative of a quite peculiar family, derived from the Acanthometrida, and I correctly compared the large opposite radial spines of one equatorial axis with the corresponding parts in *Amphilonche*.

Afterwards Richard Hertwig observed some specimens of *Diploconus fascies* in the same locality (Messina), and gave an accurate description of its central capsule, including numerous small nuclei (1879, Organismus d. Radiol., p. 28, Taf. ii. fig. 3). He found also that the peculiar diploconical skeleton is not composed of siliceous, but of acanthin. In the explanation of the shell-structure he adopted my opinion.

In the rich collections of the Challenger I detected ten different forms of *Diploconida*, all very rare, and for the most part represented only by single specimens. A twelfth species was found by me in the collection of Captain Rabbe from the Indian Ocean. By the study of these new forms, and particularly by their comparison with the most nearly allied Hexalaspida and Belonaspida, it was possible for me to correct some errors in my former description and to give a much more correct description and natural explanation of this very peculiar and strange family of Radiolaria (compare Pl. 140).

The most characteristic and the most voluminous part of the acanthinic skeleton in all *Diploconida* appears as the diploconical or nearly cylindrical solid "mantle" giving them their name and odd appearance (Pl. 140). Usually this mantle is broader on its two opposite terminal openings than in its more or less constricted middle part. This latter is now more spherical or ellipsoidal, now more lenticular, and usually separated from the two cones by two slight transverse strictures. On the surface of this middle part twelve to eighteen radial spines, which in *Diplocolpus* are rudimentary or absent, are visible in *Diploconus*. The longitudinal axis of this shell is constantly occupied by a very large pair of opposite stout prismatic or cylindrical principal spines, which are united in the centre and usually more or less prominent with their distal apex over the two openings of the double cone.

In my first communication on *Diploconus* (1862, *loc cit.*) I correctly compared these two large spines in the prolonged main axis of the shell to the principal equatorial spines of *Amphilonche* (or to the "hydrotomical spines," *c1*, *c3*); but my explanation of the two peculiar cones enveloping them was erroneous. I supposed at that time that they were formed by the eight flattened and leaf-shaped curved