

Legion IV. PHÆODARIA,
vel Cannopylea, vel Pansolenia (Pls. 99-128).

Phæodaria, Haeckel, 1879.

Tripylea, Hertwig, 1879.

Cannopylea, Haeckel, 1881.

Pansolenia, Haeckel, 1878.

Definition.—Radiolaria with a double membrane surrounding the central capsule, which bears on one pole of the main axis a peculiar astropyle, or a tubular main-opening, in the centre of a circular radiate operculum. Usually (but not constantly) a pair of small, lateral, accessory openings (or parapylæ) on the opposite pole of the main axis. Extracapsulum constantly with a phæodium, or with a voluminous aggregation of peculiar dark pigment bodies (phæodella) covering the astropyle of the central capsule. Skeleton siliceous or silicated, always extracapsular, very rarely wanting. Fundamental form very variable, originally monaxon, often dipleuric or bilateral.

The legion PHÆODARIA, or CANNOPYLEA, in the extent here defined, was constituted by me in 1878, in my Protistenreich (p. 102) under the name PANSOLENIA. This name was given on the supposition that the skeleton of these interesting Radiolaria is always composed of hollow tubules, in contrast to that of the other Radiolaria, where it is never tubular. But I was soon convinced that this supposition was erroneous, that in a great part of the PANSOLENIA the skeleton is not composed of hollow tubules but of solid bars, and that a constant, very characteristic, and never failing mark of this group is to be found in the peculiar phæodium, a voluminous, constant, extracapsular pigment body. Therefore, in 1879, I changed the name into PHÆODARIA, and having discovered in the collection of the Challenger an astonishing number of new and wonderful types of this group, I described, in a preliminary note on it, four different orders and ten families with thirty-eight genera (Ueber die Phæodarien, eine neue Gruppe kieselschaliger mariner Rhizopoden; in Sitzungsberichte der Jenaischen Gesellschaft für Medicin and Naturwissenschaft. Sitzung vom, 12th December 1879).

In the same year (1879), Richard Hertwig, in his excellent work entitled Der Organismus der Radiolarien, published the first accurate description of the intimate structure of the soft body of the PANSOLENIA, and mainly of their central capsule; and having always observed, in the few representatives examined by him, three openings in the capsule (one main-opening and two accessory openings), he called them TRIPYLEA (*loc. cit.* p. 87), being guided by the erroneous supposition that these three openings are