Legion II. ACANTHARIA,

vel Actipylea, vel Acanthometrea (Pls. 129–140).

Acantharia, Haeckel, 1881.
Actipylea, Haeckel, 1882.
Acanthometrea, Hertwig, 1879.
Panacantha, Haeckel, 1878.

Definition.—Radiolaria with simple membrane bounding the central capsule, which is everywhere perforated by innumerable fine pores (disposed either equally or symmetrically). Extracapsulum without phæodium. Skeleton centrogenous (its growth proceeding from the centre), acanthinic (organic, not siliceous). Fundamental form originally spherical.

The legion ACANTHARIA vel ACTIPYLEA, to the extent here defined, was constituted by me, 1878, in my Protistenreich (p. 102) under the name "PANACANTHA." A more accurate definition of this group was given in 1879 by Hertwig under the name ACANTHOMETREA. Both names were replaced by me, 1881, in my Prodromus (pp. 421, 465) by the more convenient name ACANTHARIA. This legion comprises all those Radiolaria which were first described by Johannes Müller, 1858, as *Acanthometrae*, and also an important part of his *Haliomma*. In my Monograph (1862, pp. 371–424) I disposed them in three families, Acanthometrida, Diploconida, and Dorataspida.

Although the number of genera and species in this legion is much increased by the rich collection of the Challenger, we can divide all ACANTHARIA into two different orders: Acanthometra (without complete lattice-shell) and Acanthophracta (provided with a complete lattice-shell).

The ACANTHARIA agree with the SPUMELLARIA in the structure of the simple capsule-membrane, which is perforated by numerous small pores (but constantly devoid of the large main opening, which the NASSELLARIA and PHÆODARIA possess, being hence united as "Merotrypasta"). We can therefore unite both former legions as "Holotrypasta" (compare above, pp. 5, 6); but in many ACANTHARIA (if not in all?) the numerous small pores of the capsule-membrane exhibit a certain peculiar arrangement not observed in the SPUMELLARIA; therefore the latter can be regarded as true "Peripylea" in opposition to the former as "Actipylea."

The peculiar main character of all ACTIPYLEA or ACANTHARIA is determined by the chemical constitution of their skeleton, which is not silex, but a peculiar organic substance, called by me in 1862 "acanthin" (Monogr. d. Radiol., pp. 30, 32). In all other Radiolaria the skeleton is composed of silex or of a silicate. But besides this