7. *Trochodiscus cingillum*, n. sp.

Disk with smooth surface, in the distal part radially sulcated. Pores regular, circular; twelve to thirteen on the radius. Marginal spines twenty to twenty-four, triangular, of equal size and at regular distances, only one-fourth as long as the radius of the disk, connected at their broad base by a solid equatorial girdle of the double breadth. (Similar to *Heliodiscus cingillum*, Pl. **33**, fig. 7, but without medullary shell.)

Dimensions.—Diameter of the disk 0·22, of the pores 0·004; length of the spines 0·02, basal breadth 0·02.

Habitat.—South Pacific, Station 285, depth 2375 fathoms.

Family XIX. P H A C O D I S C I D A, Haeckel (Pls. **31–35**).

Phacodiscida, Haeckel, 1881, Prodromus, p. 456.

Definition.—D i s c o i d e a with simple extracapsular phacoid shell (or lenticular latticed cortical shell), connected by radial beams with an intracapsular, simple or double, concentric medullary shell, without chambered equatorial girdles.

The family P h a c o d i s c i d a comprises a large number of splendid forms (about a hundred species), which agree with the preceding Cenodiscida in the possession of the characteristic extracapsular "phacoid shell," but differ from them in having one or two intracapsular "medullary shells"; these concentric spherical medullary shells are connected with the lenticular cortical shell or phacoid shell by means of radial beams perforating the central capsule. The Phacodiscida bear therefore the same relation to the Cenodiscida that the Disphærida and Trisphærida do to the Monosphærida.

Formerly several species belonging to this family were described by Ehrenberg and Johannes Müller, but not distinguished from the S p h æ r o i d e a, genus *Haliomma* (*e.g.*, *Haliomma sol* et *Haliomma humboldtii* of the former, *Haliomma amphidiscus* of the latter). For these oldest known species I constituted in 1862 my genus *Heliodiscus* (Monogr. d. Radiol., p. 436). Some other genera were afterwards (1875) figured by Ehrenberg as *Periphæna* and *Chilomma*. The rich material of the Challenger revealed this family as very polymorphic and widely distributed, so that in my Prodromus (1881, p. 457) I could enumerate eighteen different genera of Phacodiscida. This number is here reduced to fifteen, uniting several of them into one genus as "subgenera."

The Medullary Shell of the Phacodiscida, or the intracapsular latticed shell, is either simple and spherical, or double, composed of two concentric spheres, which are united by a variable number of radial beams. We could distinguish therefore as two subfamilies the Carpodiscida (with simple medullary shell) and the Thecodiscida (with double concentric medullary shell); the former corresponding to the Carposphærida (or *Dyosphæria*), the latter to the Thecosphærida (or *Triosphæria*). But as this difference seems not to be so important as the different shape of the disk margin, we prefer this latter as a character