

Coscinodiscus radiatus, Ehrenb., var. *abyssalis*, nov. (Plate XXIX. figs. 2, 11, and 15.)

These figures represent a *Coscinodiscus* which was found in the interior of two Echini procured from a depth of 1340 fathoms at Station 47, lat. 41° 14' N., long. 65° 45' W. The differences observable between the frustules tend, however, to lead one to believe that one has to deal with forms having no relation to one another. The drawings have been made from the appearance presented by one valve mounted in a dry air cell instead of Canada balsam, and in such circumstances when examined under the most perfect homogeneous immersion objectives, constructed by Zeiss of Jena, or by Reichert of Vienna, and others, a different image is obtained at each slightest focal change, so that it is not easy to determine which should be regarded as typical. These different appearances, however—apart from those caused by diffraction—reveal the minute details of the ornamentation of the organism. Thus, although I regard the very small granules which limit the hexagonal areolæ in fig. 2 to be a real structural peculiarity, they cannot be observed in Canada balsam preparations. In the latter preparations the surface is found to be covered with areolæ, which radiate from the centre to the periphery, where they gradually diminish in size, so that it presents affinities to *Coscinodiscus radiatus*, Ehrenb.¹ On comparing it, however, with the specimen of that species given in the Typenplatten of Möller, the areolæ are found to differ in size in the two cases, being in the new form about one-third larger. Thus it must be regarded as a variety of Ehrenberg's species, its varietal name having reference to the fact that it was procured in deep water in the Atlantic. It is desirable that the two forms should be accurately compared when both mounted in the dry state.

Willemöesia, n. gen.

Several of the curious and interesting forms shown on Plate VIII. figs. 8, 8 *a*, and 8 *b*, have been observed from different localities. The three frustules represented are all elongated, and are closely related to one another. All are granulated, but in the first the granules are disposed in an indefinite manner, while in the second and third the punctations are uniformly distributed over the valves, being in the second decussate, but in the third irregular. The form of the first is long and cuneate, while that of the others is sublinear, but in all three one extremity is cuneately, while the other is simply, rounded.

The fact that several specimens of these forms have been observed from different localities is opposed to the belief that they are teratological or anomalous forms, and as they all present some common characteristics, while each retains its own special and distinctive marks, they may well be regarded as three types of a new genus.

¹ Ehrenberg, *Mikrogeologie*, pl. xxi. fig. 1; Smith, *Synop. Brit. Diat.*, pl. iii. fig. 37; Pritchard, *op. cit.*, p. 830, pl. xi. figs. 39 and 40.