

central area which occupies about two-thirds of the diameter being rugged rather than granulated. The intermediate zone has very fine radiating striæ, while the external circle is ornamented by regularly disposed granules arranged in a quincuncial manner. In this form, as well as in that described by O'Meara, dark lines of variable length radiate outwards from the perimeter of the central zone; these, however, are not "alternately arranged," as referred to by O'Meara, but are distributed irregularly. Moreover, here the margin, instead of being "finely striated," is granulated in a quincuncial manner, each granule being distinctly defined with a magnifying power amounting to only 460 diameters. The additional circumstance, which is well seen in the present frustule, but is not referred to by O'Meara, that the edge is marked by long, irregularly disposed dark lines of variable thickness, is noteworthy. Although both Diatoms were collected in the Antarctic Ocean, they were procured in localities separated by upwards of 40° of longitude; yet the distinctions which have been pointed out cannot be looked upon as sufficient to justify the establishment of two distinct species for the two interesting organisms.

*Hyalodiscus subtilis*, Bail. var. *japonica*, nov. (Plate XVIII. fig. 4.)

The specimen here shown was collected on the coast of the Sea of Japan. It agrees generally with *Hyalodiscus subtilis*, Bail.,<sup>1</sup> in the size of the umbilical area, in the guilloché-like disposal of the granules, and in the character of the line of suture which limits the central area. This line, however, in the present case is somewhat more indented, while the granules are not difficult to detect and the margin is notably wider—characteristics which are of sufficient importance to justify us in regarding this frustule as a variety of Bailey's typical species.

The fragment shown in Plate XXIV. fig. 4 probably belongs to the *Hyalodiscus lævis* of Ehrenberg.<sup>2</sup>

### Cyclotella, Kg.

The genus *Cyclotella*, which was instituted by Kützing, differs but slightly from that of *Melosira*—the frustules of the latter forming longitudinal series, while those of the former occur singly or at most united in pairs. Though *Cyclotella* may thus be regarded as but another form of the genus *Melosira*, the retention of the former generic name is desirable, as tending to prevent confusion, and to facilitate the record of so many distinct types. Of the genus *Cyclotella* an excellent monograph has been prepared by the well-known micrographer Dr Albert Grunow, and his work has been incorporated in the *Synopsis des Diatomées de Belgique* of Dr van Heurck.

<sup>1</sup> Pritchard, *op. cit.*, p. 815, pl. v. fig. 60.

<sup>2</sup> Ehrenberg, *Mikrogeologie*, pl. xxxiii. 15, fig. 17; = *Cyclotella lævis*, Kg., and allied to *Cyclotella physoplea*, Pritchard, *op. cit.*, p. 814.