arafusœnsis, O'Me., the specific name being probably intended for *arafurensis*—since the sea which extends from the Aru Islands to Torres Strait, where the specimen was found, is called the Arafura Sea. The frustule is a little smaller than the preceding, from which it may also be distinguished by the following circumstances, namely (1.) the subhexagonal areolæ decrease from the margin towards the centre and are stronger than in *Coscinodiscus craspedodiscus*; and (2.) the central areola is smaller, less stellate, and irregular.

The third form which was brought from Kerguelen is also an enormous disc. It has been named *Coscinodiscus moseleyi*, O'Me.[1] It is very convex, and its central rosette is formed by eight large unequal cellules or areolæ and minute subquadrate granules arranged in small radiating groups.

In examining the numerous discoidal frustules which have now to be recorded, it is by no means easy to determine the limits that are to be set to the genus *Coscinodiscus*. Some of the granular or cellular discs correspond perfectly to the generic definition above quoted, but several other forms possess so extremely delicate punctations as to surpass in this respect all known species of *Coscinodiscus*, and to render it highly improbable that they could have been observed by Ehrenberg with his comparatively imperfect microscope when he established that genus. This view is confirmed by W. Smith, who, to prove that his *Coscinodiscus concinnus* could not be confounded with the *Coscinodiscus centralis* of Ehrenberg, remarks[2] that the cellules of the former could not have been detected by means of the instrument used by Ehrenberg. But the punctations of the forms now in question are even more minute than those of *Coscinodiscus concinnus*, so that they cannot be regarded as conforming to the definition of that genus, but must be looked upon as belonging to a new genus which I shall name *Ethmodiscus*[3] on account of the exceedingly fine condition of the granulation.

Coscinodiscus arafurensis, O'Me., var. nov. (Plate II. fig. 4.)

The frustule here figured is one of the largest members of the genus *Coscinodiscus* that has to be recorded here. Its diameter is 349 μ., and it is ornamented with large radiating cellules which become smaller towards the centre, where a smooth irregular areola occurs.

Though possessing the large size just noted the present valve is smaller than that of *Coscinodiscus arafurensis*, O'Me., and much less than that of *Coscinodiscus craspedodiscus*, O'Me. With the last-named frustule, however, it has been found to be associated in a collection made in the Arafura Sea, although *Coscinodiscus craspedodiscus*, O'Me., was also obtained in great numbers in a sounding of great depth taken in the Pacific Ocean

[1] *Journ. Linn. Soc. Lond.* (Botany), vol. xv. No. 82, p. 57, pl. i. fig. 6.
[2] Synopsis of the British Diatomaceæ, vol. ii. p. 85.
[3] ἠθμος, a filter for liquids.