

***Amphora staurophora*, n. sp.** (Plate XXVII. fig. 6.)

Valvis cymbiformibus, apicibus acutis; linea ventrali subrecta, dorsali convexa; nodulo medio in staurum ad marginem dilatato. Ad portum Thaiti.

The narrow stauros of this little cymbiform valve extends to the margin. The dorsal line is convex and presents a slight constriction at its junction with the stauros. The ventral line is straight, and the extremities are slightly inflexed. The apices of the valve are acutely rounded. The striation is very delicate and transverse.

The specific name has been derived from its long and well-defined stauros.

***Amphora oceanica*, n. sp.** (Plate XXVII. fig. 20.)

Valvis deorsum subinflatis, introrsum late concavis; apicibus obtusis rotundatis; nodulo centrali lineam marginalem subattingente; striis tenuissimis transversis. Prope Sydney.

This new form, from the waters near Sydney, appears at first sight to be a variety of *Amphora obtusa*,¹ Greg., but to regard it thus would widen the limit of that species to too great an extent, so that the two forms cannot be included in the same category.

In *Amphora oceanica* the terminal nodules are not distinct, and the central nodule is in close proximity to the internal profile of the valve. The striation is singularly delicate and, as in *Amphora obtusa*, Greg., transverse.

Cymbella, Ag. Kg.

Two of the frustules described under this genus, and represented on Plate XXVII. figs. 5 and 13, namely, *Cymbella criophila* from the south of Heard Island, and *Cymbella marina* from the neighbourhood of Yedo, Japan, seem, at first sight, to belong to the genus *Amphora*. Since, however, the characteristic of that genus is to have a central marginal nodule, they cannot be included in that group, but must be classed as *Cymbellæ*, although no members belonging to the latter genus have been hitherto recorded as marine.

That an admixture of fresh-water and salt-water Diatoms should occur in marine gatherings is to be expected, however, when it is borne in mind that frustules of the former must often be carried into the sea by rivers. Thus *Asterionella formosa*,² Hass., and *Eunotia arcus*,³ Ehrenb., which, like all other *Eunotiæ*, vegetates at an elevation of several hundred feet above the level of the sea, have been detected in sea water; yet it cannot be doubted that *Cymbella marina* is a true pelagic form, and it is probable that *Cymbella criophila* has the same habitat. That representatives of this genus do live normally in sea water has indeed been clearly proved by me while working in the

¹ *Micr. Journ.*, vol. v. pl. i. fig. 34.

² *Micr. Journ.*, vol. viii. pl. vii. fig. 8; *Microscopical Examination of the Water supplied to the Inhabitants of London*, by Mr. Hassall, p. 10; Smith, *Synopsis of the British Diatomaceæ*, vol. ii. p. 81.

³ *Abhandl. d. k. Akad. d. Wiss. Berlin*, 1840, p. 17; Rabenhorst, *Süssw. Diat.*, fig. 6; Wigand in *Hedwigia*, vol. ii. p. 43, pl. vii. figs. 13 and 14.