

***Asteromphalus challengerensis*, n. sp. (Plate V. fig. 2.)**

Forma rotunda; lineis umbilicalibus tribus a centro dimanantibus, hinc bipartitis vel tripartitis; lineæ umbilicales rectæ; segmentorum vertices obtuso-rotundati; area radii obsoleti fere oblitterata. In mari glaciali Antartico.

This round Diatom bears a star with eight radii apart from the obsolete radius. The umbilical lines are three in number, start from the central point, and afterwards subdivide. The vertices of the segments are obtusely rounded, and the central area of the obliterated radius has vanished.

***Asteromphalus challengerensis* (?), n. sp. (Plate IX. fig. 2.)**

Forma monstrosa. In mari glaciali Antartico.

The frustule here represented is exceedingly instructive and interesting. It is evidently a monstrous form, and doubtless originates from the coalescence and simultaneous development of two germs which have combined to form a single frustule. Although similar teratological phenomena frequently occur in the fruits of phanerogams, I have not met with an example hitherto among Diatoms, nor am I aware of its having been observed by others. Although the precise specific determination of such an abnormality is a matter of considerable difficulty, no doubt can exist as to the generic name, inasmuch as an obsolete radius is present, and at once determines it to be an *Asteromphalus*. Moreover, from the rounded form of the granulated segments, the linear outlines of the radial areas, the locality in which it was procured, and its association with other frustules of the same genus, it can hardly be doubted that we have here to deal with a specimen of *Asteromphalus challengerensis*.

It is to be noted that, while we are here brought face to face with the development of a double germ or double sporule, the two germs, though the products of the same parent, possess different characters, so that the one would apparently have given rise to a frustule with a smaller number of radii than the other. If this be admitted, then it is clear that no importance should be placed on the number of radii in specific determinations.

***Asteromphalus wyvillii*, n. sp. (Plate V. fig. 6.)**

E maximis; radiis præter obsoletum viginti sex, intra marginem terminantibus denticulo signatis; areæ granulatae intramarginales ad verticem truncatæ; lineæ umbilicales ab area radii medii circumradiantes, simplices vel semel et bis dichotomæ, et medio dupliciter curvatæ. Diametrum areæ centralis 65 μ , valvæ 226 μ . In mari Pacifico.

This is without doubt the most singular and superb specimen of the genus *Asteromphalus* which has up till now been recorded. Its immense size (= 226 μ in diameter), the great number of its radii, and the relative smallness of the central disc of the star are remarkable. From the outline of the central area of the obsolete radius proceed many