

*Fragilaria linearis*, n. sp. (Plate XIX. fig. 9.)

E maximis; valvis linearibus, transverse striatis, apicibus rotundatis. In mari Antartico.

This Diatom was collected in the Antarctic Ocean. The form of the valve is not "linear-lanceolate or fusiform," but is absolutely linear, and provided with rounded extremities, so that in this respect it differs from that of any previously recorded species of the genus. Hence Pritchard's definition,<sup>1</sup> as given in his History of Infusoria (p. 776), must be extended, there being no doubt as to the fact that this frustule belongs to the present genus. The generic description may be amended as follows:—"Frustules linear, united into a filament, lateral valves smooth or faintly striated, linear, linear-lanceolate or fusiform."

*Fragilaria antarctica*, n. sp. (Plate XXV. fig. 12.)

Frustulis seriatim dispositis; valvis plus minus subcurvatis, transverse raro plicatis; inter plicas duplex punctulorum ordo; punctula invicem alternantur. In mari Antartico passim.

The two valves shown in the present figure are of very different sizes, yet the identity of their structure indicates that they belong to the same genus, although in the larger specimen the want of symmetry along the longitudinal axis is more pronounced than in the other. This want of symmetry is not found in other forms of *Fragilaria*, except in the case of *Fragilaria (?) pacifica*,<sup>2</sup> Grun., which is figured in the Synopsis des Diatomées de Belgique, Plate xlv. figs. 20-22, and of *Fragilaria (?) schwarzii*, Grun., represented at fig. 24 of the same plate. With these two examples before us, however, the present frustules may be classed as *Fragilariæ*, especially as the valves are striated by uninterrupted rows of points—a character which is generally found in the *Fragilariæ*. Strictly speaking, however, this type should not be placed among the Pseudoraphidiæ, but among the Cryptoraphidiæ.

The structure of the valves is very characteristic. The surface is traversed transversely by thinly-set but deep folds, so that the intervals resemble large granules when viewed from the zonal side. Between the folds or plicæ there are two lines of sparsely disposed punctiform granules, which alternate with one another. The Diatom is very common, and is quite characteristic of all the collections from the Antarctic, being found sometimes isolated and sometimes in series. When in series the frustules are not linear, but somewhat inflated, owing to the convexity of their outline.

<sup>1</sup> This definition is as follows: "Frustules linear, united into a filament; lateral valves smooth or faintly striated, linear-lanceolate or fusiform."

<sup>2</sup> The localities given for *Fragilaria (?) pacifica*, Grun., are "Cap. de Bonne-Esperance et Iles Samoa," and for *Fragilaria (?) schwarzii*, Grun., "Iles Seychelles."