

Rhizosolenia inermis, n. sp. (Plate XXIV. figs. 7, 8, 10, and 13.)

Annulis distinctis; striis ægre perspicuis; processu calyptriformi terminali truncato et lineola brevi longitudinaliter signato. In mari Antartico.

The four cylindrical frustules here shown are composed of rings of trapezoidal plates, and terminate in oblique calyptræ. It is noteworthy that in all the terminal mucrones are absent, and that the extremities of the calyptræ are truncated, each being ornamented by a short longitudinal line, the whole reminding the observer of the shape of a pen. This line seems to represent the mucro which is peculiar to other Rhizosolenian species, a belief which is substantiated by the fact that in fig. 8 a trace of the line may be perceived in the cavity, which is so disposed as to receive the extremity of the succeeding frustule. It is therefore of the utmost importance to remark that in the definition of the genus the terminal mucro, *although a very general*, cannot be regarded as an *essential* characteristic. Although varietal differences may exist in the four frustules figured they have all been, for the sake of convenience, grouped under one specific name, which has been suggested by the common character of their extremities just alluded to.

Rhizosolenia polydactyla, n. sp. (Plate XXIV. fig. 2.)

Annulis brevioribus crebris; striis imperspicuis; processu calyptriformi brevi et acuto mucrone armato. In mari Antartico.

This frustule is peculiar on account of the shortness and multiplicity of its rings. The terminal mucro is strong and very acute, even more so than is indicated in the figure.

The specific name of this Antarctic form is intended to be indicative of the remarkable character of its rings.

Rhizosolenia inæqualis, n. sp. (Plate XXIV. fig. 15.)

Forma subcylindrica, constans annulis transversis parallelis; processu calyptriformi composito, in acutissimum mucronem exeunte. In mari Sinensi ad Hong-Kong.

This Diatom was observed in a surface gathering which was made in the neighbourhood of Hong-Kong. It is remarkable on account of the inequality of its transverse diameters at different parts, an anomaly which may be attributed to regional inequalities of pressure on the rings, which, instead of being round, are oval in section. It is also especially noteworthy that the calyptriform process does not consist merely of a single piece, but is made up of two or three rings or distinct parts.

Rhizosolenia sima, n. sp. (Plate XXIV. fig. 11.)

Frustulis subcurvatis; calyptra brevi in obtusum brevissimum mucronem desinente; imperspicue striata. In extremo mari Antartico ad glacies impervios.

A singularly strange aspect is presented by the present frustule, which cannot be regarded as an accidental or monstrous form, as it has been frequently met with in the