

In fig. 8 the frustules are simple and singularly slender, and the borders are provided with fine but very salient points—spines or thorns—which at the superior extremity assume the appearance of two apiculi. The frustules are never in groups of more than eight, and the angles included between any adjoining pair are approximately equal, with the exception of that which corresponds to the opening of the armilla, which is always somewhat larger.

This also applies to the frustules shown in fig. 7, which differ from the last only in being double, an appearance which has been caused by the temnogenetic changes which have taken place. Sometimes promiscuous groups of double or simple frustules are to be met with, but much more frequently, after division has occurred, the armilla, in which the inferior extremities of the frustules are planted, breaks up by separation of the double frustules, a result which is probably brought about by the development and swelling of a triangular isthmus, which unites the superior extremities. In the course of this curious change in the position of the locus of union the frustules are frequently found to be simply united in short zig-zag series.

Thalassiothrix curvata, n. sp. (Plate XXIV. fig. 6.)

Frustulis linearibus, subcurvatis, crasiusculis, radiatim vel alterne pulvinulo conjunctis; punctulis frustulorum marginalibus duplo quam in *Thalassiothrice frauenfeldii* rarioribus. In mari Japonico.

In this figure no traces of the small connecting cushions are to be found, as these have been removed during the process of incineration. The frustules are bacillar, and flanked on each side by a line of small points resembling those which are found in the above described Grunowian species, but they are slightly curved, much shorter and wider, and the punctations are only half as abundant as in *Thalassiothrix frauenfeldii*.

From such considerations the specific value of this Diatom cannot be doubted, especially as it occurs in great abundance in some collections.

Fragilaria (Lyngb.), Agardh.

It has already been indicated that the enormous glaciers which cover the mountains of polar lands, and which ultimately reach the ocean and form icebergs, are the means of transporting freshwater Diatoms into the sea, where these organisms float freely when the ice has been melted. Frustules of *Asterionella formosa*, Hass., *Ceratoneis arcus*, Kg., and various species of the genus *Eunotia*, which is not only peculiar to fresh water, but which only vegetates at an elevation of several hundred feet above the level of the sea, have been thus transported,¹ and the same phenomenon has taken place in the case of the genus *Fragilaria*, of which some new species must now be recorded.

¹ Confer., p. 50.