Their apices were very acute, and the valves finely striated, while they were at the same time surrounded by a row of small granules or lines similar to those which occur in the *Nitzschiæ*.

Bacillaria socialis, Greg., var. *indica*, nov. (Plate XXV. figs. 9 and 10.)

The known species of *Bacillaria* are few, and amongst these Pritchard (*op. cit.*, p. 784) records as *Bacillaria socialis* a form determined by Gregory[1] as *Nitzschia socialis*. On comparing this frustule with those from the Arafura Sea they are found to agree (1.) in having their valves of a linear-lanceolate form; (2.) in being ornamented with a very fine transverse striation; and (3.) in presenting acute apices; while they differ in the following respects: (1.) The Arafuran frustules are slightly sigmoid, while the others do not exhibit this peculiarity; (2.) the presence of a central keel, mentioned by Gregory as occurring in his Diatom, is not to be detected in the present case, in which there is (3.) a band of granules which are somewhat more distinct and more sparsely distributed than the striæ.

Although, in the absence of an authentic preparation of Gregory's species for purposes of more accurate comparison, it is not easy to determine the true significance of the above-mentioned points of difference between what are otherwise two closely allied forms, the frustules now figured have in the meantime been regarded as a variety of his typical form.

TRIBE III.—CRYPTORAPHIDIEÆ.

Rhizosolenia, Ehrenb.

Judging from the various definitions that have been given of this genus, which was first introduced by Ehrenberg,[2] it does not appear to have been clearly understood hitherto by any observer. The definition given by Pritchard in his History of the Infusoria (p. 865) is as follows:—"Filamentous, frustules subcylindrical, greatly elongated, siliceous, annulate; annuli broadly cuneate; surface striated, extremities calyptriform, pointed with a bristle." In the Micrographic Dictionary, on the other hand, the following generic characteristics are pointed out:—"Frustules elongate, subcylindrical, marked with transverse spiral lines, ends oblique or conical, and with one or more terminal bristles." But these definitions cannot be said to correspond more accurately to the reality than that proposed by Ehrenberg himself, which, according to Pritchard, was as follows:—"Lorica tubular, with one extremity round and closed, while the other is attenuate and multifid as if terminating in little roots."

It is not easy to understand why it was not recognised from the beginning that the

[1] *Trans. Micr. Soc. Lond.*, vol. v. p. 80, pl. i. fig. 45.

[2] Ehrenberg, Mikrogeol., plates xviii., xxxiii., and xxxv.