

*Rhaphoneis elliptica*, n. sp. (Plate XXVI. fig. 13.)

Parva, elliptica, duplo longior quam latior; costis crebriusculis radiantibus, area lineari lanceolata medio interruptis. Ad mare Japonicum.

This small elliptical Diatom is twice as long as broad. Its costules, which radiate like those of *Rhaphoneis mammalis*, n. sp., are more closely arranged, and more prominent than in the latter frustule.

The smallness of its size, and the absence of granulated striæ, distinguish it from the *Rhaphoneis fasciolata* of Ehrenberg,<sup>1</sup> but it bears some resemblance to the lower valve of a *Cocconeis*. Since, however, no upper valve belonging to this genus was observed in the rich collection, and since the smooth central space characteristic of the genus *Rhaphoneis* is present, it has from its shape been named *Rhaphoneis elliptica*. It was gathered in the Sea of Japan.

*Rhaphoneis japonica*, n. sp. (Plate XIX. fig. 12.)

Mediocris, elliptica; apicibus cuneato rotundatis; distinctiorum granulorum lineis subradiantibus; granulis circum regulariter stipatis, medio irregulariter rarioribus. In mari Japonico.

The determination of this species has been a work of no small difficulty. In it no trace of a smooth area or of a median longitudinal line is to be found, so that, although apparently not a *Rhaphoneis*, no other genus exists to which it could be more readily ascribed. On consulting the various writers on Diatoms, and comparing their figures with the present type, an oblong, elliptical form—different, indeed, from the form now in question, but evidently belonging to the same genus,—which resembles the *Rhaphoneis australis* of H. L. Smith, is represented at fig. 54 given in a paper on the "Diatoms collected during the Expedition of the Vega," by P. T. Cleve, under the name of *Trachisphenia australis*.

In order to understand how a form that presents no trace of central division can be called a *Rhaphoneis*, reference may be made to the Synopsis of the families and genera of Diatoms by H. L. Smith, as given at the end of Dr Van Heurck's work on the Microscope<sup>2</sup> (third edition), where, in the definition of the genus, after having said, "ayant une ligne mediane ou un espace blanc," he parenthetically adds, "souvent obscur ou manquant," so that amongst the characteristics of a genus the essential should always be distinguished from the less essential features.

Since, however, this frustule from the Sea of Japan cannot be confounded with *Rhaphoneis australis*, H. L. Sm., as it differs both in form and in the character of its granulation, it must be regarded as a new species, and has been named from the locality in which it was found.

<sup>1</sup> Mikrogeol., T. xxxv. A. 22, fig. 16.

<sup>2</sup> Le Microscope, sa Construction, son Mainement, et son Application à l'anatomie Végétale et aux Diatomées (troisième Edition), Bruxelles, 1878.