

that the present frustule differs from Cleve's species in the fact that the curvature of the middle line is much less—a distinction which is probably due to the fact that we have to deal with different stages of development in the two cases, and one which is not of great importance.

This form occurs pretty frequently in the sea around the Philippine Islands as well as in the Sea of Japan.

The form represented in Plate XV. fig. 5, is also closely related to the same species. It possesses, however, a somewhat rhomboidal profile and the extremities are more obtuse, the raphe being at the same time more excentric. Notwithstanding these differences, it must be regarded as merely a varietal frustule.

Plate XXVIII. fig. 14, represents another variety of *Alloioneis antillarum*, Cl. et Grun., which differs from the latter only in the much greater dimensions of the frustule and in the proportion between the longitudinal and transverse axes.

Alloioneis japonica, n. sp. (Plate XX. fig. 12, *bis.*)

Linearis elongata; apicibus cuneato-rotundatis; striis laxis, transversis, ad apices subradiantibus, huc lineam mediam attingentibus, illuc brevioribus et lævem aream linquentibus. Ad mare Japonicum.

This curious navicular form was found in mud procured from a sounding of 335 fathoms in the Sea of Japan. It possesses a long narrow elliptical form and terminates in two cuneato-acute extremities. The striæ, which on one side touch the raphe, do not reach it on the other side, and near the central nodule they leave a well-marked smooth area.

Pleurosigma, W. Smith.

The genus *Pleurosigma* is perhaps the most remarkable among the navicular Diatoms. The surfaces of the valves are adorned with very minute granules, and this fact, as is well known, is often made use of in testing the quality of objectives for microscopes.

The genus includes all those navicular forms which possess a granulated surface, and whose valves, or at least central raphes, are curved in a sigmoid manner. The name *Gyrosigma* was that first given by Hassall¹ to such forms, but the word *Pleurosigma*, which was introduced by W. Smith, has now been universally adopted, being more in conformity with the rules of nomenclature, and also because of the accuracy maintained by that observer in his revision of the species which belong to this group.

The valves of all species of the genus are covered with very minute equal granules arranged in a quadrate or in a decussate quincuncial order, and upon these characteristics Smith based his general system.

¹ Pritchard, *op. cit.*, pp. 915, 916.