

Those species which, like *Amphiprora alata*, Ehrenb., Kg., are bent spirally, are the most difficult to understand, being very frequently seen with a cone-shaped profile. Those that are not spirally bent have the zonal side more or less panduriform owing to a central constriction resulting from the bilobate form of the wings. The genus may, accordingly, be conveniently divided into two sections, one comprising the non-spiral and the other the spirally bent forms.

*Amphiprora plicata*, Greg., var. *japonica*, nov. (Plate XXX. fig. 8.)

A small specimen from the Sea of Japan is here represented. It greatly resembles *Amphiprora plicata*,<sup>1</sup> Greg., having a panduriform profile owing to the existence of a deep central constriction. In both, too, the extremities are rounded and the connecting zone is marked by longitudinal lines or folds. In the species determined by Gregory, however, no noteworthy marks occur at the lines of junction between the wings and the valves, whereas in the frustule from the Sea of Japan more salient points occur at intervals of about four striæ. These puncta are probably formed by a thickening of the striæ, so that a kind of longitudinal keel somewhat similar to that which is found in the genus *Nitzschia* is the result. Although this characteristic is well marked it cannot be viewed as of specific importance, so that the Japanese form must be looked upon as a variety of Gregory's species belonging to the non-spiral section of the genus.

*Amphiprora fimbriata*, n. sp. (Plate XVII. fig. 15.)

Spiralis, oblongo-elliptica; apicibus late rotundatis; ala vel carina undulata; striis imperspicuis. In mari Pacifico.

This very elegant oblongo-elliptical form belongs to the spiral section of the genus. The wings, which have their origin in the subcordate inconspicuously striated valve, are also bent spirally, and, as if to adapt themselves to the curvature of the frustule, they are transversely undulated. This remarkable disposition of the alæ has not hitherto been recognised in any other species, and cannot but be regarded as of specific importance. The apices are broadly rotundate.

*Achnanthes*, Bory.

Among the pedunculate Diatoms, Bory of St. Vincent established this genus in 1822. It has been defined by Professor W. Smith<sup>2</sup> as follows:—"Frustules geniculate, united into a filament which is stipitate or attached, valves striated, unsymmetrical, the lower with a longitudinal and transverse line, and central and terminal nodules, the upper with a longitudinal line only."

<sup>1</sup> Gregory, *op. cit.*, p. 33, pl. iv. fig. 57.

<sup>2</sup> *Op. cit.*, vol. ii. p. 25.