

surfaces do not show the well-defined points which are so manifest in *Lauderia annulata*, Cleve, and *Lauderia elongata*, described above; on the contrary, a crown of marginal granules is alone represented. If then this organism be accepted as a *Lauderia* the definition of the genus must be extended to embrace both these conditions.

*Lauderia* (?) *moseleyana*, n. sp. (Plate XXIV. fig. 9.)

Forma cylindrica, annulata, parum longior quam latior; linea suturali excentrica; margine granulato. In mari Arafura.

This cylindrical Diatom from the Sea of Arafura is annulated and terminated by flat surfaces. The rings, however, though still of considerable diameter, are markedly narrower than in the preceding types. The individual frustules of a series are terminated at each extremity by a distinctly granulated line, and each at the same time presents a well-marked transverse line of suture which crosses the frustule nearer one end than the other. These lines are approximately at the same distance from the granulated terminal bands on both sides of each granulated area, so that two adjoining wider and two adjoining narrower zones succeed each other regularly.

The specific name has been given in honour of Professor Moseley of Oxford, who accompanied the Challenger Expedition as one of the Naturalists.

#### Rutilaria, Grev.

In 1863 Greville<sup>1</sup> established this genus for some rare and singular fossil organisms discovered in the deposits of Monterey and Barbados. Having only seen the valve of the frustule, the original definition was not, as might be expected, exact; but, after the discovery of other frustules adhering to one another, he amended this in 1866 in the following manner:<sup>2</sup>—"Frustules very compressed, cohering into a short filament; valves slightly elevated at the angles, with a central glistening nodule prolonged into two short linear, obtuse processes; the margin pectinate-ciliate."

The affinity of this genus with that of *Biddulphia*, which has also been recognised by Greville, presents no difficulty after a simple examination of its valval side, while the presence of a large central convolute nodule prevents it from being confounded with the genus *Nitzschia*. On the valval side of *Rutilaria* there may also be seen a well-defined elevation at each of the extremities. In *Biddulphia*, on the other hand, terminal processes or cornua occur, while generally the centre is convex and salient, and the adjoining frustules become united to one another by means of two long spines or setæ.

<sup>1</sup> *Quart. Journ. Micr. Sci.*, n. s., vol. iii. p. 227. The original definition ran as follows: "Frustules free, elongated, compressed, with a convolute or nodulose central nodule (no median line or terminal nodule), and minute radiate or decussato-punctate structure. Valve (linear, keeled?) with a longitudinal row of puncta."

<sup>2</sup> *Trans. Micr. Soc. Lond.*, n. s., vol. xiv. p. 124.