

of the forms at present only known as occurring in geological deposits may ultimately be discovered in the living condition in the ocean.

Porodiscus stolterfothii, n. sp. (Plate XII. fig. 8.)

Forma rhombico-elliptica; pseudo-ostiolo subrotundo mediocri; striis radiantibus stipatis. In Oceano Pacifico.

This very singular Diatom at first sight recalls the *Porodiscus oblongus* of Greville,¹ which has been characterised as being an elliptico-oblong disc with a large pseudo-opening; this, by reference to the figure, being found to be equal to one-third of the transverse axis and perfectly round. In the present case, however, the form of the valve is rhomboido-elliptical, and the pseudo-opening is much smaller and somewhat oval, while the radiating lines of granules are much more crowded than in the Grevillean species.

The association of these differences must be regarded as sufficient to constitute a new species, which has been named in honour of the English Diatomist Dr H. Stolterfoth, who has rendered much valuable aid in connection with the present work.

Hyalodiscus, Ehrenb.

The genus *Hyalodiscus* has been defined by Pritchard (History of the Infusoria, p. 814) in the following terms:—"Frustules simple, disciform; disc smooth, flat, its umbilical portion or centre separated by a distinct suture;" and he points out that it differs from the genus *Podosira*, Ehrenb., in having a flat disc. I am, however, inclined to adopt the view of Professor H. L. Smith, who thinks it very probable that the *Hyalodisci* are only valves of *Podosira*—a genus which he unites to that of *Melosira*, Ag. But on the other hand, although *Podosira* has never yet been met with in long series of many frustules, it seems to be desirable to retain it as a genus distinct from that of *Melosira*, as we thereby retain a distinction between two kindred series of forms.

It may here be observed, on the other hand, that it is by no means easy to understand how O'Meara described and figured,² under the name of *Pyxidicula radiata*, a form collected by Mr Moseley at Kerguelen Island, as no *Pyxidicula* presents an umbilical area which is separated by a line of suture from the rest of the surface of the valve. O'Meara ought rather to have named his specimen *Podosira* (or *Melosira*) *radiata*, as the form of the valve, which is the only common character between his Diatom and the genus *Pyxidicula*, is equally common to the two genera just named.

Hyalodiscus (*Pyxidicula*, O'Me.), *radiatus*, var. nov. (Plate X. fig. 1.)

A kindred, if not identical, frustule to that described and figured by O'Meara is here represented. The disc has its surface divided into three well-defined zones, the wide

¹ *Micr. Journ.*, n. s., vol. iii. p. 65, pl. iv. fig. 5.

² See Note on the Diatomaceous Gatherings made at Kerguelen's Land by H. N. Moseley, *Journ. Linn. Soc. Lond.* (Botany), vol. xv. plate i. fig. 9.