were for the most part found on the surface of the reef, have a greenish tinge, as if they lived on the corresponding particles of the Chlorosperm *Algæ*. When growing attached to marine plants, the animal bodies of *Orbitolites* may be nourished by the gelatinous investment with which those plants are covered. In my former Memoir I mentioned that some of the spirit-specimens I had then examined by decalcification proved to be invested by a sort of cuticle formed of *Diatoms*, *Desmids*, and other minute *Algæ;* but I have not met with any such investment among the large number of spirit-specimens of both types which I have examined in the Challenger collection.

As to the Reproduction of *Orbitolites*, I regret to be unable to afford the least information, having searched in vain for any further evidence of the mode in which it is effected, than that which I had formerly obtained. In my Introduction to the Study of the Foraminifera (p. 38) I described and figured some extremely young specimens of *Orbitolites*, consisting only of the "nucleus" and a single annulus of sub-segments,—which had been taken out from the grooved margin of a large plicated disk, resembling those figured in Pl. VII. And I have found similar specimens in the same situation in some of the large Fijian disks.[1] As I shall hereafter state more in detail, the marginal annuli of the largest disks often have no radial partitions, their cavities being continuously annular; and as the thin external walls of these annuli, being unsupported by internal partitions, are very fragile, it may not be thought unlikely that gemmules may be formed within these peripheral zones, which may be set free by the rupture of this wall, and may retain for a time the protection of the overhanging superficial lamellæ, which form a deep channel for their lodgment. Of a very curious variation in the *mode of growth* of *Orbitolites complanata*, which seems constantly related to the *size* of the "nucleus" in which it commences, particulars will be given hereafter (pp. 38, 41).

1. *Orbitolites tenuissima*, Carpenter (Pls. I. and II.).

Orbitolites tenuissimus, Carpenter and Jeffreys, Proc. Roy. Soc., vol. xviii., 1869, p. 421, and vol. xix., 1870, p. 155.

This very beautiful and most interesting form of the Orbitoline type (Pls. I. and II.) was first obtained in the deep-sea dredgings of the "Porcupine" expedition of 1869, between the north-west of Ireland and the Rockall Bank; and has been subsequently brought up from abyssal depths in other parts of the North Atlantic, as also from shore bottoms off the coast of Portugal, and within the Mediterranean. It is at once distinguished from all other specific forms by the extreme disproportion between the area and the thickness of its disks; for whilst its largest examples approach in diameter the smaller specimens of *Orbitolites complanata*, and their surface presents the same regular

[1] Such young disks will be found represented in Pl. XVI. figs. 1–4, of Mr. Brady's Report on the Foraminifera of the Challenger Expedition, Zool. Chall. Exp., part xxii.