

preceding it. The segments are very numerous and V-shaped or embracing. In the larger and more characteristic forms the final convolution becomes gradually more and more contracted at the peripheral margin, until eventually it ceases to be distinguishable, completely closing in the shell. The aperture is a simple arched or V-shaped slit at the inner margin of the final segment. The canal system is highly developed, and forms an important feature of the genus, resembling in the distribution of its parts that of *Operculina* and *Cycloclypeus*.

It is exceedingly difficult, perhaps impossible, to separate the genera *Operculina* and *Nummulites* by any well or strongly defined characters, indeed the former is regarded by Parker and Jones as only a subgeneric modification of the latter type.

With certain authors the explanate varieties of *Nummulites*, that is to say, those in which the outline of the successive convolutions is visible externally owing to the tenuity of the lateral flaps of the chambers, constitute a distinct genus or subgenus, for which the d'Orbignian term *Assilina* is employed.

The genus *Nummulites* is subdivided by d'Archiac and Haime¹ into six "groups," based upon the condition of the surface of the test and the form of the alar extensions of the chambers, namely:—1. *Læves* aut *Sublæves*; 2. *Reticulatæ*; 3. *Subreticulatæ*; 4. *Punctulatæ*; 5. *Plicatæ* vel *Striatæ*; 6. *Explanatæ*. The same classification is followed by Hantken and Madarász.² Parker and Jones regard the "granulate" and "explanate" sections as needless, and divide the series into three categories:—1. *Radiatæ*; 2. *Sinuatæ*; 3. *Reticulatæ*.³ The latest arrangement is that proposed by de la Harpe, who accepts *Assilina* as a distinct genus, and separates *Nummulites* into two primary groups—(A), Non-reticulate; and (B), Reticulate; each of which is divided into "Granulate" and "Non-granulate" species.⁴

As already stated, living examples of the genus are comparatively scarce. Furthermore, it is difficult in the present state of our knowledge to speak with certainty as to the area of distribution of the recent forms, inasmuch as some of the specimens which have been obtained from dredged sands are, there can be little doubt, derived from Tertiary deposits. Minute but well-characterised *Nummulites* have been found in the fossil condition at intervals as far back as the limestones of the Carboniferous period; though it was not until the commencement of the Tertiary epoch that any extensive development of the genus took place. The limestones of the Eocene period, which form an important constituent of the mountain-ranges of Central Europe, Central and Southern Asia, and Northern Africa, are largely composed of Nummulitic shells; and, though the genus is less prominent in the Oligocene and subsequent formations, it is present to a greater or less extent at almost every stage of the Tertiary system.

¹ Descr. des anim. foss. du groupe nummulitique de l'Inde, 1853, p. 72.

² Katalog d. auf d. Wiener Weltausstellung im Jahre, 1873, ausgestellten Nummuliten.

³ Ann. and Mag. Nat. Hist. 1861, ser. 3, vol. viii. p. 230.

⁴ Étude des Nummulites de la Suisse, 1^{ère} partie, 1881, p. 62.