

disposed to question the opinion of so experienced a microscopist as my friend Dr. Dawson; but supposing the Rhizopod nature of the fossil established, the characters of the shell appear to suggest affinity with the calcareous rather than the strictly arenaceous types.

In localities in which *Saccamminæ* abound, whether in the recent or fossil condition, it not unfrequently happens that almost the entire deposit is composed of their tests. Some of the soundings taken off Franz-Josef Land, during the Austro-Hungarian North Polar Expedition, showed that the sea-bed of that boreal region in many places consists of little else, and in the Carboniferous formation of the north of England and of Scotland, there are certain limestones which are almost exclusively made up of the remains of the polythalamous variety of the type.

The distribution of the genus *Saccammina* is practically embraced in the geographical area inhabited by *Saccammina sphaerica* and the geological range of *Saccammina carteri*. The former affects moderately deep water, and is common only in the North Atlantic and Arctic Oceans. The earliest recorded appearance of the latter is in beds of Lower Silurian age at Girvan in Ayrshire (Nicholson and Etheridge), and it is plentiful in some of the Carboniferous limestones of both Great Britain and Ireland. A little uncertainty prevails about its occurrence in Mesozoic rocks, but the genus is stated by Rupert Jones¹ to have been found in the Lias and possibly in the Lower Oolite. From a manuscript list, for which I am indebted to Dr. Rudolf Haeusler, I infer that it has been obtained from the Upper Jurassic beds of Switzerland, though it is not mentioned in his published catalogue.

Saccammina sphaerica, M. Sars (Pl. XVIII. figs. 11–17).

Saccammina sphaerica, M. Sars, 1868, Vidensk.-Selsk. Forhandl. for 1868, p. 248.

„ „ G. O. Sars, 1871, Ibid. for 1871, p. 250.

„ „ Carpenter, 1875, The Microscope, 5th Ed., p. 532, fig. 272, a.b.c.

Test free or rarely attached; globular or pyriform; consisting typically of a single chamber with compact coarsely arenaceous walls, and a simple orifice situated in a nipple-like protuberance. Tests which are (or appear to be) polythalamous have the later segments small, imperfectly formed, and irregularly combined. Diameter from about $\frac{1}{25}$ th to $\frac{1}{4}$ th inch (1 to 3.5 mm.).

Saccammina sphaerica was discovered by the elder Sars, and the name first appears in a list of Foraminifera dredged by him at a depth of 450 fathoms on the coast of Norway. Neither specific description nor figures accompanied this catalogue, but specimens kindly furnished by Prof. G. O. Sars to several subsequent observers leave no doubt as to the form for which the name was intended.

¹ *Proc. Geol. Assoc.*, 1872, vol. ii. p. 181, table.