

specimen is forty mm. high and twenty eight mm. in its maximum breadth. In the central portion of this specimen the dimensions of the rays of the 'spicules,' as measured from the centre of each 'spicule,' are as follows: length of the proximal rays, 3.5 mm., length of the horizontal or lateral rays 5.5 mm.; thickness of the rays at their bases 9 mm. The dimensions of the four basal plates shown in figs 5 and 5a are, length 4.5 mm., breadth 3.0 mm. The subcylindrical specimen represented by fig. 4 is rather more than 35 mm. in height, and 12.5 mm. in its greatest breadth."

This species is the type of Pengelly's genus *Spharospongia*, which was first characterized in 1861, and of Ferdinand Roemer's genus *Polygonosphaerites*, which was published in 1880. It is still doubtful which of these names should be retained, the first having been given on the hypothesis that the organism was originally a sponge, and the second on the assumption that it was not. Of late years Phillips' species has been referred to *Spharospongia* by Dr. G. J. Hinde in 1884 (op. cit.) and by Dr. Clemens Schluter in 1887*, but to *Polygonosphaerites* by Zittel in 1883†, and by Herr Rauff‡, as well as by Professors Nicholson and Lyddeker in 1889§. Dr. Hinde claims that it is a Lyssakine Hexactinellid sponge, but Herr Rauff maintains that it and the Receptaculitidae are not silicious organisms, but that their skeletons were originally calcareous and the silicious specimens mere pseudomorphs, or the result of subsequent silicification. The group therefore, he concludes, cannot be referred to the Hexactinellid sponges, and its systematic position is still entirely uncertain. In the present Report, however, the generic term *Spharospongia* is still retained, though not without some hesitation, on the ground that the hypothesis that the type of the genus was not a sponge, has not yet been conclusively proved.

A specimen of a *Spharospongia* which appears to be indistinguishable from the present species, has been figured under the name *S. cornucopiae*, Goldfuss (Sp.)|| by Dr. Schluter, who states that it was recorded (aufgeführt) by Goldfuss in 1832 as occurring in the Devonian rocks of the Eifel and named by him *Scyphia cornucopiae*. The volume in which the latter name was first indicated is inaccessible to the writer, but it would seem that the species was never properly characterized by Goldfuss, and hence that his specific name cannot be accepted as prior to Phillips', for, on page 30 of Davidson's Monograph of the British Devonian Brachiopoda the following passage occurs. "In 1833" (according to Dr. Schluter this

* Zeitschr. der Deutsch. geol. Gesellsch., Berlin, vol. XXXIX, p. 13, pl. 1, figs. 1 and 2.

† Handbuch der Palaeontologie, vol. I, p. 728.

‡ Zeitschr. der Deutsch. geol. Gesellsch., Berlin, vol. XL, p. 609.

§ Man. Paleont., 1889, vol. II, App., pp. 1563-64.

|| Zeitschr. der Deutsch. geol. Gesellsch., 1887, vol. XXXIX, pl. 1, figs. 1 and 2.