

The calyx is higher than wide, generally much so. It consists of five basals and five radials, of which the former (in the recent species at least) are much the longer. Arms five, the joints united in pairs by syzygies, with pinnules on the epizygals only. The first pinnule on the epizygal of the third or fourth pair. The epizygal of the first pair has the sides of its ventral furrow produced upwards into strong processes which support the disk. The peristome is protected by five oral plates of variable size, but the remaining portions of the interpalmar areas are not plated. The ambulacra have covering plates, but no side plates.

Remarks.—The name *Rhizocrinus* was first employed in 1864 by the late M. Sars¹ to designate a singular new Crinoid which had been discovered by G. O. Sars in his dredgings among the Lofoten Islands; and it was the extreme interest of this type as a sort of degraded Apicrinite which, through the intervention of Dr. Carpenter and the late Sir Wyville Thomson, led to the dredging cruise of H.M.S. "Lightning" in 1868. The results of this cruise, *Rhizocrinus* among them, were so remarkable that it was followed by the "Porcupine" Expedition of 1869–70, and eventually by the voyage of the Challenger. It was the discovery of *Rhizocrinus*, therefore, and the interesting speculations to which this discovery gave rise, that led this country to take a foremost place in the work of deep-sea exploration. Meanwhile, however, *Rhizocrinus* had been rediscovered by the late Count Pourtalès during the dredgings carried on by the U.S. Coast Survey in connection with the regular exploration of the Gulf Stream.² At that time (May 1868) Sars's elaborate memoir on the type had not yet appeared, and the specimens dredged by Pourtalès were described by him as "undoubtedly belonging to the genus *Bourgueticrinus*, as defined by d'Orbigny," a remark in which I entirely concur. He gave the provisional specific name "*Hotessieri*" to his specimens, thinking that they might possibly be identical with *Bourgueticrinus Hotessieri*, d'Orb., stem-joints of which had been discovered in a recent breccia at Guadeloupe. After the appearance of Sars's memoir, however, he recognised the identity of the Gulf Stream and of the Lofoten examples of the type, for which he adopted Sars's name *Rhizocrinus lofotensis*.³

But he took a totally different view of the composition of the cup from that proposed by Sars, and in this respect, as will be pointed out immediately, he was decidedly in the right. For the large subradial portion of the summit, which was considered by Sars as an enlarged upper stem-joint, was shown by Pourtalès to consist of five closely anchylosed basals.

In the year 1875 the name *Rhizocrinus* was doubtfully given by Meneghini⁴ to some

¹ *Forhandl. Vidensk. Selsk.*, Christiania, 1864, p. 127. "Den 14de. October, Hr. Sars holdt et Foredrag om Pentacrinoide tilstanden af *Comatula sarsii* og om en ny levende Crinoide *Rhizocrinus lofotensis*."

² Contributions to the Fauna of the Gulf Stream at Great Depths, *Bull. Mus. Comp. Zool.*, vol. i., No. 7, p. 128.

³ List of the Crinoids obtained on the coasts of Florida and Cuba by the U.S. Coast Survey Gulf Stream Expeditions, in 1867, 1868, 1869, *Ibid.*, No. 11, p. 357.

⁴ I Crinoidi Terziarii, *Atti dell. Soc. Tosc. di Sci. Nat.*, vol. ii. pp. 46, 50.