verticils of five cirri, just like that of a recent *Pentacrinus;* and this is a much more important morphological resemblance than the length of the basal plates.

Then again the radials of *Rhizocrinus* are all in close lateral contact, while *Belemnocrinus* has an anal plate intervening between two of the radials and resting on a basal. It supports a heavy proboscis on its upper face, while *Rhizocrinus* has a disk protected by five insignificant oral plates. The arms of *Belemnocrinus* are ten in number, while *Rhizocrinus* has only five. This, however, is unimportant; but the arms of *Belemnocrinus* bear two rows of pinnules alternately, while in some species these primary pinnules bear alternating secondary ones, a condition totally unknown in any Neocrinoid. Altogether, therefore, the structure of the arms of *Belemnocrinus* is very different from that of *Rhizocrinus*, in which every joint has a syzygial surface at one of its ends; though it must be admitted that syzygies are plentiful in the arms of *Belemnocrinus*, as there are some species, *e.g.*, *Belemnocrinus pourtalesi*, in which "throughout the greater portion of the arms every alternate joint is a syzygium." This character, however, and the length of the basals are of minor importance compared to the intercalation of the anal plate in the calyx and the nature of the articulation between the stem-joints, so that I cannot in any way regard *Belemnocrinus* as an ancestral form of *Rhizocrinus.*

1. *Rhizocrinus lofotensis*, M. Sars, 1864 (Pl. VIIIa. figs. 6–8; Pl. IX. figs. 1, 2; Pl. X. figs. 1, 2).

1864. *Rhizocrinus lofotensis*, M. Sars, Forhandl. Vidensk. Selsk., p. 127.
1868. *Rhizocrinus lofotensis*, M. Sars, Mémoires pour servir à la connaissance des Crinoïdes vivants, p. 38.
1868. *Bourgueticrinus Hotessieri*, Pourtalès, Bull. Mus. Comp. Zoöl., vol. i., No. 7, p. 128.
1872. *Rhizocrinus lofotensis*, Wyv. Thoms. (pars), Proc. Roy. Soc. Edin., vol. vii. p. 770; The Depths of the Sea, 1873, pp. 447, 450.
1874. *Rhizocrinus lofotensis*, Pourtalès, Ill. Cat. Mus. Comp. Zoöl., vol. iv., No. 8, p. 28.
1882. *Rhizocrinus lofotensis*, P. H. Carpenter, Bull. Mus. Comp. Zoöl., vol. x., No. 4, p. 173.
1884. *Rhizocrinus lofotensis*, P. H. Carpenter, Proc. Roy. Soc. Edin., vol. xii. p. 356.

Dimensions.

Greatest length of stem (Pourtalès),	5 inches.
Greatest length of stem (Sars), sixty-seven joints (?)	70 mm.
Greatest length of entire specimen (Sars),	80 „
Greatest length of arm, about thirty-five joints (Sars),	11 „

Stem slender, bearing branching radicular cirri on its lower part, and ending below in a more or less spreading root. The cirri come off near the terminal faces of the lower joints at the ends of their longer axes. The joints are markedly dicebox-shaped, and nearly three times as long as wide.

The calyx is smooth and obconical, of somewhat variable proportions. Basals two or