

angle of the basiradial suture, where a radial rests on two basals; and then the surface of the radials slopes outwards rather more rapidly than that of the basal tube below it, so as to considerably increase the diameter of the cup. All the sutures, interrarial, basiradial, and interbasal, are perfectly distinct; and there is a very faint circular constriction of the basal tube rather below its middle, analogous to that described by Sars in certain individuals of *Rhizocrinus lofotensis*.<sup>1</sup> This smaller individual has the lowest portions of the arms preserved, the longest of which has small pinnule-stumps on the fourteenth and sixteenth brachials, *i.e.*, on the epizygals of the seventh and eighth syzygial pairs. In the larger individual, however, all the arms are broken away at the syzygy on the distal faces of the first brachials, which are a little higher and more trapezoidal in form than those of the smaller example (Pl. LIII. fig. 8). The calyx is also slightly different in outline. The expansion of the basal tube from below upwards is a trifle more rapid than in the smaller form, so that its outline is less cylindrical; while the radials are bent outwards a little at about one fourth of their height from their lower angles. This causes the calyx to appear slightly constricted at the highest level of the basiradial suture, a feature which is very marked in some varieties of the adult form.

As compared with equal sized specimens of *Rhizocrinus lofotensis*, these young individuals are distinguished by the relatively great height of the calyx, especially in the basal tube, and the expansion at the basiradial suture. The cup of *Rhizocrinus lofotensis* is not usually so high in proportion to its width; and it expands uniformly upwards, from the stem to the upper margin of the radials, so that its shape is pretty regularly obconical (Pl. IX. figs. 1, 2; Pl. X. fig. 2).

In *Rhizocrinus rawsoni*, however, the shape of the calyx varies in a most remarkable degree. It is elongated (exceeding 9 mm.) and relatively very narrow in Prof. Perrier's specimens; while in those lately dredged by Captain Cole off Panama,<sup>2</sup> the diameter varies between 80 and 90 per cent. of the length, which is not more than 4 mm. (woodcut, fig. 19). But as a general rule, the form of the calyx may be described as elongated and subcylindrical. In a few individuals (woodcut, fig. 19, B) it expands uniformly from below upwards throughout its whole length, as is generally the case in *Rhizocrinus lofotensis* (Pl. X. fig. 2). Sometimes the width increases very slowly and sometimes more rapidly, but there is no indication of constriction at any point in the basals or radials. In other specimens the basals expand slowly but uniformly, and the radials slope outwards more strongly, as in Pl. LIII. fig. 7. Sometimes again, the basals widen a little, but then narrow slightly till they join the radials, which slope outwards so as to again increase the diameter of the cup.

<sup>1</sup> Crinoïdes vivants, p. 5, Tab i. figs. 35, 39.

<sup>2</sup> I am indebted to Prof. F. J. Bell, F.Z.S., for calling my attention to those four remarkable specimens which are divided between the Zoological and Geological Departments at the Museum of Natural History. The keepers of these departments, Dr. A. Günther, F.R.S., and Dr. H. Woodward, F.R.S., kindly permitted me to examine them, and the former gentleman was good enough to allow the accompanying figures to be made of the two abnormal individuals under his charge.