

“article basal.” It is entirely undeveloped in *Rhizocrinus*, though this type shows a slight decrease in the width of the stem a little below the cup, before the commencement of the gradual downward enlargement, just as is so much more marked in *Bourgueticrinus*.

There are certain other points in which the two recent species of *Rhizocrinus*, together with some fossil ones, differ very markedly from *Bourgueticrinus*; and although these differences hold good for some of the fossil species of *Rhizocrinus*, it is difficult to say how far this may be the case with others, owing to their imperfect state of preservation.

In the first place, the basals are of great relative height, often five or six times that of the radials, and they occupy much the larger part of the exterior of the calyx; while the lower stem-joints are usually longer than wide. If they bear radicular cirri these come off somewhat irregularly from near the ends of the joints, but their sockets are not verticillate, nor are they ever formed by portions of two apposed joints, as is often the case in *Bourgueticrinus* and *Mesocrinus*. *Rhizocrinus lofotensis* and *Rhizocrinus rawsoni* show these characters very well (Pl. IX. fig. 1; Pl. X. fig. 15). The latter has the longer basals, but its stem-joints, though longer than wide, are not so markedly so as in *Rhizocrinus lofotensis*. The same is the case with the stem-joints of the so-called *Bourgueticrinus londinensis*, which is really a well-defined *Rhizocrinus*; while in those of *Conocrinus (Rhizocrinus) suessi* and *Conocrinus pyriformis* the width of the articular faces is more nearly equal to the length of the joint. In all these species the basals are longer than the radials, though not greatly so; but in *Bourgueticrinus (Rhizocrinus) thorenti* they are very long, as in the recent *Rhizocrinus rawsoni*, while the stem-joints resemble those of *Rhizocrinus lofotensis* in their proportions.

Owing to the shape of the basals, the calyx of *Rhizocrinus* is usually cylindrical or obconical, and though it expands gradually upwards it is nowhere very greatly wider than the stem, as is the case in *Bourgueticrinus*. In *Conocrinus suessi* and in *Conocrinus pyriformis*, and perhaps also in *Conocrinus sequenzai*, it takes on a more ovoid form; while in *Rhizocrinus rawsoni* and *Rhizocrinus thorenti* it may be very considerably elongated.

So far as I am aware, no true *Rhizocrinus* has been obtained from any formation lower than the Eocene. Quenstedt<sup>1</sup> figures some moderately elongated stem-joints of *Apiocrinus constrictus* from the White Chalk of Rügen. But in the absence of a calyx it is almost impossible to determine these generically, owing to the rarity of the association of calyces and stem-joints at the same spot. The same is the case with regard to the Jurassic species of *Bourgueticrinus*, e.g., *Bourgueticrinus ooliticus* from the Bradford Clay, which is perhaps referable to *Thiolliericrinus* as suggested by de Loriol. The distinguished Swiss palæontologist has also described a fossil from the Cretaceous of Alabama, U.S., as *Bourgueticrinus alabamensis*.<sup>2</sup> It consists only of the basal cone which “supports the calyx, and which is composed of several enlarging segments of the

<sup>1</sup> Encriniden, Tab. 104, figs. 64–66.

<sup>2</sup> Description of a New Species of *Bourgueticrinus*, *Journ. Cincinnati Soc. Nat. Hist.*, vol. v. p. 118, pl. v. fig. 1.