

column surmounted by the basal plates." His figure shows five of these uppermost stem-joints, which are all low and discoidal; and it consequently appears to me that the fossil should be referred to *Rhizocrinus* rather than to *Bourgueticrinus*. If this be the case, and its horizon really Cretaceous, this species is of interest as being the only known instance of a Cretaceous *Rhizocrinus*.

On the other hand, *Bourgueticrinus* although abundant in Cretaceous deposits, is not certainly known to occur in any Tertiary formation. Some of the types described under this generic name from the Italian Tertiaries have been referred to *Conocrinus* by Meneghini and others. Among these is the *Apiocrinus cornutus* of Schafhäütl, which was doubtfully referred to *Bourgueticrinus* by Meneghini;¹ though Zittel,² while describing its calyx as "niedrig schüsselförmig," spoke of it as *Conocrinus cornutus*. I have been enabled by the kindness of Prof. Zittel to examine the calyx of this species for myself; and I was interested in finding its shape to be very like that of a singular bowl-shaped calyx from the London Clay which is preserved in the Natural History Museum. This has relatively large radials and low basals. I do not see how it can possibly be placed in the same genus as *Conocrinus thorenti* or *Rhizocrinus rawsoni* with their elongated calyces mainly formed by the long basals; and I think that it will be necessary to establish a new genus for the reception of these two species, to which others will probably be added when the calyces are found corresponding to some of the other Tertiary stem-joints that are now referred to *Bourgueticrinus* in default of further evidence, e.g., *Bourgueticrinus didymus*, Schaur.

Rhizocrinus was supposed by Pourtalès to have a considerable resemblance to the genus *Belemnocrinus* from the Burlington limestone of Iowa and Illinois. Wachsmuth and Springer³ have spoken of this resemblance as being very close and interesting, and stated that "the most important difference, and indeed the only essential distinction between these genera in their external structure, is found in the solid proboscis and covered dome of *Belemnocrinus*." It appears to me, however, that the American authors lay too much stress on the fact that the calyx is formed in both genera of five long and narrow basals, and that they have overlooked other and more important structural characters. In the first place the stems of the two types are totally different. That of *Belemnocrinus* is pentagonal, consisting of short joints with crenulated faces; while the stem-joints of *Rhizocrinus* are elongated and more or less dice-box shaped, with the well known, enlarged and elliptical ends. Stem-joints articulated like those of *Rhizocrinus* do indeed occur in the Palæozoic *Platycrinus*, and under these circumstances we may fairly expect that any genetic relationship between *Belemnocrinus* and *Rhizocrinus* would have manifested itself in this character. But the stem of *Belemnocrinus*, at any rate of *Belemnocrinus florifer*, seems to have borne successive

¹ *Atti della Soc. Tosc. di Sci. Nat.*, vol. ii. p. 53.

² *Palæontologie*, Bd. i. p. 392.

³ Revision of the genus *Belemnocrinus*, and description of two new Species, *Amer. Journ. Sci. and Arts*, 1877, vol. cxiii. p. 255.