

to receive the wide basal joints of the cirri ; so that its re-entering angles are deeper than those of an ordinary internodal joint (compare Pl. XXXIX. figs. 8, 9 ; and Pl. LIII. figs. 2, 4). The infra-nodal joints, however, are less deeply incised than those of *Pentacrinus*, and are sometimes not modified at all, as in *Metacrinus interruptus* and *Metacrinus rotundus*. This is the case in *Pentacrinus wyville-thomsoni* (Pl. XIX. figs. 3, 4), in which the lower edge of the cirrus-socket of the nodal joint projects outwards beyond the level of the infra-nodal joint below it, while the supra-nodal is only slightly modified to receive the bases of the upward projecting cirri. Traces of a similar rim at the lower edge of the cirrus-socket are to be seen in *Metacrinus interruptus* (Pl. LII. fig. 2).

I know of no characters by which isolated internodal joints of *Metacrinus* can be distinguished from those of *Pentacrinus*, the relations of the teeth to the petaloid sectors being the same in both types. But the number of internodals is much more constant in *Metacrinus* than in *Pentacrinus*. In the latter genus there may be only one or two, as in *Pentacrinus maclearanus* (Pl. XVI. fig. 1) ; or about sixteen in *Pentacrinus asterius* (Pl. XI.), and about forty in *Pentacrinus wyville-thomsoni* ; whereas in *Metacrinus* the limits of variation are from six or seven in *Metacrinus wyvillii* (Pl. XLVIII.) to thirteen in *Metacrinus murrayi* (Pl. XLII.) ; so that this character is of less value in the classification of the species than it is in *Pentacrinus*.

The geographical range of *Metacrinus* is much more limited than that of *Pentacrinus*. Neither genus has been found in the Pacific east of long. 170° W. ; but there are no Atlantic species of *Metacrinus*. *Pentacrinus* was obtained without *Metacrinus* at Stations 171 and 175 in the South Pacific ; while *Metacrinus* occurred alone at Station 209 (among the Philippines), and also in considerable abundance and variety at Station 192, in the Arafura Sea. It extends as far west as Singapore, and is represented by two species in Japanese waters, where no *Pentacrinus* is known, excepting the doubtful *Pentacrinus mollis* (Pl. XXXIII. figs. 7-10). On the other hand, *Metacrinus* has not been met with below 630 fathoms, while *Pentacrinus* has been dredged at 1095 fathoms in the Atlantic, and 1375 fathoms in the Pacific Oceans.

The mutual relations of the thirteen species of *Metacrinus* in which the calyx is known, are shown in the following Table. The Challenger species are numbered 1 to 11, and the letters P. H. C. are appended to those which I have recently described in the Transactions of the Linnean Society. The "Vega" specimen, which concludes the list, has not yet been described. There are two other species of the genus (one obtained by the Challenger) which are known as yet only by the characters of their stems ; and I have therefore been obliged to place them in a separate list, as the number of radials in the cup is still an unknown quantity.