

fourth radial is sometimes a syzygy. The rays generally divide four, and sometimes five times; and their subdivisions are equal in value or nearly so. The first joint after each axillary bears a pinnule, and the third is usually a syzygy.

The terminal parts of the arms have a large number of undeveloped pinnules. Those on the lowest parts of the rays have large, thick joints, the basal ones cuboidal and the rest oblong. Those borne by the radials and lower distichals receive their ambulacra direct from the peristome, or from the primary ambulacra of the disk.

*Remarks.*—The name *Metacrinus* for this very well characterised genus originated with Sir Wyville Thomson; but he drew up no diagnosis of it. Indeed it was only by finding the name in his handwriting upon a proof of Pl. XLVII. that I was informed of his recognition of the type as distinct from *Pentacrinus*, under which name it had been mentioned in the Station Book, and in various publications that dealt with the work of the Challenger in the Pacific. I had known of the existence of a second living genus of Pentacrinidæ for some months before the Challenger and "Blake" Crinoids came into my hands. For my friend Mr. Charles Stewart, F.L.S., the present Curator of the Hunterian Museum at the Royal College of Surgeons, had shown me early in 1881 a very fine dry specimen which had been obtained in the neighbourhood of Singapore by one of the ships belonging to the Eastern Telegraph Company. It was accompanied by a stem-fragment of another species which I now know to belong to the same genus. Thanks to his kindness, I have been able to describe them recently,<sup>1</sup> together with yet another species which had been dredged in the Japanese Seas by Dr. Döderlein, the Conservator of the Natural History Museum at Strassburg, who courteously placed it in my hands for this purpose. Eleven species were dredged by the Challenger, and there is another which I have not examined personally. It was dredged by the famous "Vega" in Yeddo Bay, during her stay in Japan in October 1879; but no description of it has yet been published. It is at present in the hands of Prof. S. Lovén of Stockholm; and with his characteristic kindness he not only sent me some fragments of the stem, but also allowed Mr. Percy Sladen, who was examining the Starfish collection in the Stockholm Museum, to draw up a description of it for me. So carefully was this done, that I have been enabled to recognise the affinities of the type, and to assign it a place in the classification of the genus which appears on p. 344.

Both the calyx and the stem of *Metacrinus*, but especially the former, present very striking differences from the corresponding parts in *Pentacrinus*. In the latter genus it is quite the exception for the number of radials to exceed three, which is so constant in *Apiocrinus*, *Millericrinus*, *Encrinus*, and *Comatula*; and even when there are more, none of them bear any pinnules. Thus there is no pinnule on the third joint of the abnormal ray of *Pentacrinus mülleri* represented on Pl. XV. fig. 2, in which the axillary is the fourth joint above the basals; nor on any of the five joints below the radial axillary

<sup>1</sup> On Three New Species of *Metacrinus*, *Trans. Linn. Soc. Lond. (Zool.)*, ser. 2, vol. ii. pp. 435-447, pls. l.-lii.