The second and third radials appear to be united by syzygy. The former are slightly trapezoidal in shape, meeting one another more or less extensively by their lower angles and then diverging. The axillaries are pentagonal, and scarcely wider than the second radials, so that a considerable gap is left between the rays. This, however, is much wider on the front of the calyx than elsewhere, as will be evident from a comparison of figs. 9 and 10 on Pl. XXXIII. It is closed higher up by the approximation of the first brachials of adjacent rays. Where they are properly visible they appear to have the usual somewhat wedge-shaped form; and the next joint was perhaps an axillary. But the condition of the specimen renders the determination of the real nature of the lower arm-joints entirely uncertain. From the mode of division of the ambulacra of the disk, however, it would appear that there were twenty arms (Pl. XXXIII. fig. 7).

The colour is dirty brown with occasional patches of white, indicating the presence of calcareous tissue.

Locality.—Station 235, June 4, 1875; lat. 34° 7′ N., long. 138° 0′ E.; 565 fathoms; green mud; bottom temperature, 38°·1 F. One mutilated specimen.

Three much mutilated individuals of *Eudiocrinus japonicus* were obtained at the same Station; but they exhibit no trace of the extraordinary deficiency of limestone in the skeleton which distinguishes *Pentacrinus mollis*. The height of the basals and the peculiar way in which they are received into a sort of cup formed by the uppermost stem-joints distinguish this type very markedly from all the other Pentacrinidæ. For the stem-joints of this family usually decrease rapidly in size towards the top of the stem, the upper ones being concealed within the concavity formed by the lower faces of the basals, as is well shown in Pl. XXXIII. fig. 5. But it is of course possible that this may also be the case even in the doubtful *Pentacrinus mollis*, though on a smaller scale.

Genus *Metacrinus*, n. gen.

Characters of the Genus.

The petaloid sectors of the faces of the stem-joints are bordered by a few large ridges, of which the smaller proximal ones meet those of adjacent sectors in the interpetaloid spaces, while the larger distal ridges reach the outer edge of the joint. The internodes of six to thirteen joints. Nodals fully occupied by the cirrus-sockets which reach their upper edge; supra-nodals incised to receive the bases of the upturned cirri. These are long, consisting of forty or fifty uniform joints, and vary but little in appearance. The lower cirri often smaller than those about the twelfth node.

Basals large, rhomboidal, or hexagonal, and in close contact. Their lower angles are generally distinctly produced downwards. Four to six radials, the second a syzygy and bearing a pinnule, as do the remaining ones till just before the palmar axillary. The