

modification of the lower arm-joints above the pinnule-sockets, which was noticed in *Metacrinus costatus*, is also visible in *Metacrinus nodosus*, though to a less extent.

There is a good deal of difference, however, between the stems of the two species. While the normal number of internodal joints in *Metacrinus costatus* is seven or eight, that of *Metacrinus nodosus* is eight or nine, and they are very regularly marked by a faint tubercle in the middle of each side, which is flat and scarcely hollowed at all (Pl. LI. fig. 8). In *Metacrinus costatus*, on the other hand, the sides of this stem are almost smooth, or only marked by a few occasional horizontal ridges, while they are distinctly hollowed between the prominent angles (Pl. XLIX. figs. 3, 4), so that the stem appears to be traversed along its whole length by five rather sharp interradianal ridges. In the uppermost and growing part of the stem these ridges are much more prominent on the closely set nodal joints than on the thin internodals which separate them. But as the latter increase in thickness their interradianal angles are also enlarged, so that those on the nodal joints are not specially prominent. This character is also visible in *Metacrinus nodosus*, both in the stem-joints of young individuals (Pl. LI. figs. 6, 7) and in the growing part of the stem of the more mature specimen. But there are no strong ridges developed at the angles of the internodes, as is the case in *Metacrinus costatus*, so that those of the nodal joints are always more or less prominent (Pl. L. fig. 4; Pl. LI. fig. 8).

The side plates on the pinnule-ambulacra of *Metacrinus nodosus* are relatively large and pointed (Pl. LI. figs. 11, 12). They are developed in the same style as those of *Metacrinus costatus* (Pl. XLVII. fig. 13) from the somewhat irregular plates of the brachial ambulacra, which are not so bifid as in *Metacrinus angulatus* (Pl. XXXIX. fig. 13) or in *Metacrinus varians* (Pl. XLVII. figs. 11, 12).

The young individual of *Metacrinus nodosus*, which is represented in Pl. LI. fig. 1, has a slightly tapering stem containing sixteen nodes, at the eighth of which one cirrus-socket is undeveloped. The characters of the young stem-joints, which are shown in figs. 2-7, have been noticed already (*ante*, p. 291).

Of the four rays remaining in this specimen only one is normal, *i.e.*, composed of six joints, of which the second and fourth are syzygies. In one case the fifth joint is the axillary, and in another the fourth, which is at the same time a syzygial joint like the second; while in another ray the fourth radial is not a syzygy, though the fifth is axillary and united to it somewhat closely, so as to give almost the appearance of a syzygy.¹ But the presence of a pinnule on the fourth joint shows conclusively that it cannot be the hypozygial of a syzygy, as its homologue is in the next ray.

This specimen is so young that the palmar axillaries are with difficulty distinguished from the ordinary joints of the secondary arms; and in some cases at any rate they seem to have been farther from the distichal axillaries than is usual in the larger indi-

¹ A little too much has been made of this resemblance to a syzygy in the right hand side of the figure.