

himself under the name of *Pentacrinus decorus*. He was thus led to state that while the two outer radials of *Pentacrinus asterius* are united by syzygy, those of *Pentacrinus mülleri* are articulated, a mistake almost the opposite of that made by Lütken. It is not difficult to understand how Müller's error arose; for the line of syzygy is not dotted as it is in the Comatulæ, where the apposed faces are marked by radiating ridges. There is little or nothing of this striation on the syzygial surface of *Pentacrinus asterius* (Pl. XII. figs. 18, 21); and the muscular unions of the remaining calyx- and arm-joints are so very close that there is hardly any external character by which the syzygy between the two outer radials may be detected. Its presence is evident enough between the two joints following each axillary, as they are shorter than their successors. But nothing of this kind appears in the case of the radials, and as they are very apt to become slightly separated at the edges I have found it almost impossible, especially in dry specimens, to determine the real nature of the union without separating the joints. This was done by Sir Wyville Thomson, whose preparations are figured in Pl. XII. figs. 15-25.

The basals of *Pentacrinus asterius* are of very variable size, like those of *Pentacrinus decorus*, though not to the same extent. They are sometimes small, rounded knobs, not meeting one another upon the exterior of the calyx; or larger and more prominent, meeting their fellows in the re-entering angles beneath the radials; but they never form a completely closed ring of triangular or pentagonal plates flush with the radials, as they do in *Pentacrinus wyville-thomsoni*, *Pentacrinus alternicirrus*, and some other species (Pl. XVIII. figs. 1-3; Pl. XIX. figs. 1, 6, 7; Pl. XX. figs. 2, 3; Pl. XXV.).

Lütken, Thomson, and others have endeavoured to establish as one of the characters of *Pentacrinus asterius* that the nodal joints of the stem are low and simple, while those of *Pentacrinus mülleri* and *Pentacrinus decorus* are thick and double, consisting of two parts united by syzygy. This is not really the case, however. In all recent Pentacrinidæ the nodal joints proper, *i.e.*, those which are pierced by the canals lodging the cirrus-vessels, are always single and united by syzygy to those next below them. But the line of junction is sometimes so nearly obliterated as to be only visible with difficulty; while in other cases, such as *Pentacrinus asterius* (Pl. XIII. fig. 8), it is hardly distinguishable from the ordinary junction lines between the internodal joints, which are crenulated much less than usual.

The following may therefore be regarded as the special marks of *Pentacrinus asterius*:—a robust stem with long internodes and wide cirrus-sockets; the ray-divisions rather irregular in number and grouping; the projections of the pinnule-joints.

Little is known about the range of *Pentacrinus asterius*, either in depth or in space. Examples have been obtained off Barbados, Guadeloupe, Martinique, Montserrat, Nevis, and Saba Island; while the only two cases in which the depth is known with certainty are respectively 120 and 320 fathoms. Like the three other West Indian species, it is not known to occur out of the Caribbean Sea.