

A somewhat different type of ambulacrum is presented by two other Caribbean species, *Pentacrinus asteria* and *Pentacrinus decorus*. The arm-groove of the former is relatively wide and the proximal parts of the ambulacra are distinctly above it, though they gradually sink down into it as they get farther from the disk; as long as the rays continue to divide their ambulacra and those of their pinnules are covered by an irregular double row of large plates (Pl. XIII. fig. 16; Pl. XVII. fig. 7). After the last bifurcation these plates become smaller and more regularly arranged, so that they take the form of oblong covering plates with rounded ends which stand up at the sides of the groove (Pl. XVII. fig. 8). They do not, however, extend uninterruptedly along each side of the groove, but are arranged in a series of linear groups between the successive pinnules of either side, so that they alternate in position on the two sides of the arms successively. They are largest and best developed at the base of a pinnule, where its ambulacrum comes off from that of the arm, and from this point they diminish gradually in size towards the disk until the base of the next pinnule is reached, when a fresh set appears upon the proximal edge of its ambulacrum.

Thus, then, the covering plates which pass on to the pinnule-ambulacrum from that of the arm are at first limited to its proximal or outer side only. But a second set soon appears on the inner side of the ambulacrum¹ (*i.e.*, that next the arm), and their outer ends gradually become more and more rounded until they present the appearance shown in Pl. XIII. fig. 15. Their bases are all fused into a narrow band of limestone which rests on the pinnule-joint and represents the side plates that are better developed in other species; while the rounded outer portions represent the covering plates proper, which alternate with one another from opposite sides, so as to leave a series of openings through which the tentacles are extended.

The lower portions of the ambulacra of *Pentacrinus decorus* are essentially like those of *Pentacrinus asteria*, except that they sink more deeply into the arm-groove, while the plates covering them are smaller and far less regularly arranged (Pl. XXXIII. fig. 6). But the muscle plates of the successive arm-joints fit less closely together than in most other species of *Pentacrinus*, so that the muscular bundles are long and also visible externally; for they are not covered in by plated perisome as in the allied *Pentacrinus blakei* (Pl. XXXIII. fig. 3). In the middle and outer parts of the arms the ambulacra are generally like those of *Pentacrinus asteria*, though not so open (Pl. XXXIII. fig. 4); for the groups of plates which protect the bases of the pinnule-ambulacra overlap somewhat closely from opposite sides, while their parts are more distinctly differentiated. Farther out on the pinnules the segmentation of the lateral limestone band is sometimes carried so far that the side plates can be distinctly individualised; but there is a good deal of variation in this respect (Pl. XXXVII. figs. 23, 24).

A third type of arm, with a very narrow median groove to which the ambulacrum is

¹ Compare Pl. XVII. fig. 3; Pl. XLVII. fig. 11.