round the calyx, though four of them are missing in one of Regnault's specimens. The Philippine example presents a curious abnormality, the second distichal of one ray being axillary, though not a syzygy; while one of its two arms having been broken and regenerated has developed a palmar series. But with this exception, I have never seen any specimen which presents the general characters of *Actinometra fimbriata* and possesses palmar series. Its most important distinctive character is the shape of the lower brachials. The first half-dozen joints are nearly oblong in outline, as in almost all Comatulæ; but their successors do not become triangular or quadrate as is generally the case. For they remain short and wide, with nearly equal sides, so that their ends are much less oblique than usual (Pl. LXII. fig. 3). It is this character more especially which distinguishes *Actinometra fimbriata* from *Actinometra coppingeri* and *Actinometra multiradiata* (Pl. LX. figs. 1, 2; Pl. LXVI. fig. 1). By the twenty-fifth brachial, or sooner, the joints are almost perfectly oblong, and they remain as thick disks till near the end of the arm, where they become squarer and finally slightly elongated. The joints of the middle and lower parts of the arms overlap one another to a greater or less extent, and their edges are fringed with small spines; but there is much variation in both characters.

This thickly discoidal shape of the arm-joints appears to be their highest form of development. A study of regenerated arms of different sizes shows that the joints are at first elongated as they are in the Pentacrinoid, and that their gradual increase in width makes them at first quadrate, then triangular, and finally more or less distinctly oblong, this being the shape which is characteristic of the Pentacrinidæ and of many fossil Crinoids. We may perhaps say then that *Actinometra coppingeri* and *Actinometra multiradiata*, with their more triangular joints at the bases of the arms (Pl. LX. figs. 1, 2; Pl. LXVI. fig. 1), are permanently immature forms of *Actinometra fimbriata* (Pl. LXII. fig. 3), standing to it in the same relation as *Antedon quadrata* to *Antedon eschrichti*.

The mouth of *Actinometra fimbriata* is radial, being usually distinctly excentric, and sometimes quite close to the margin of the disk, the anal tube being central or nearly so (Pl. LXII. fig. 4), while the hinder ambulacra embrace it in a horseshoe-like curve. But in the Philippine specimen the mouth is almost central, the anal tube greatly reduced, and the ambulacra grouped like those of *Antedon*. The two primary ambulacra of the B ray are separately connected with the peristome, the outer one supporting but a single arm, as distichals are undeveloped, while the posterior one is connected to the peristome by a short trunk which is common to it and to the single groove that supplies the whole of the postero-lateral ray C (Pl. LXII. fig. 2).

The lower pinnules of this individual have somewhat carinate basal joints, but the extent of the carination varies greatly, and it seems to be almost entirely absent in one of the Banda specimens, though present in the others. It occurs in a form from Madagascar, which, so far as I can judge from my notes of its other characters, appears