protected by it, is a group of three tentacles arising from the radial water-vessel. These groups of tentacles alternate on the opposite sides of the ambulacrum along the whole length of the arm, and they accompany its lateral branches on to the pinnules.

In the irregular genus *Actinometra* the mouth is not central or sub-central, but excentric or even marginal. It is sometimes radial in position, as in *Actinometra strota* and *Actinometra jukesi* (Pl. LV. figs. 1, 2),[1] and sometimes interradial, as in *Actinometra magnifica* (Pl. LVI. fig. 7); while the number of ambulacra diverging from the peristome may vary, especially in the multiradiate species, from four to ten or even more. In most cases, however, the large interpalmar area which contains the central or sub-central anal tube is bounded by two large aboral groove-trunks, which form a horse-shoe shaped curve, and give off the ambulacra of the lateral and posterior arms. If the mouth be radial these grooves are often tolerably equal and symmetrically arranged as in *Actinometra strota* and *Actinometra jukesi* (Pl. LV. figs. 1, 2). But in types with an interradial mouth like *Actinometra magnifica* or *Actinometra stelligera* (Pl. LVI. figs. 7, 8),[2] the right or western limb of the curve is much larger than its fellow. [See p. 88.] The latter supplies the arms of the left lateral ray only; while the larger right limb represents the posterior ambulacrum combined with part or the whole of the right lateral ambulacrum as well.

In many forms of *Actinometra* more or fewer of the arms which arise from the posterior and postero-lateral portions of the disk are in the ungrooved and non-tentaculate condition, as has been already described; and the disk ambulacra corresponding to them are less developed than those of the normal grooved arms. In fact they may be altogether absent in some of the large multiradiate species such as *Actinometra magnifica* and *Actinometra nobilis*, both of which are remarkable for the presence of ungrooved arms on each ray. In *Actinometra magnifica* for example, which has an interradial mouth (Pl. LVI. fig. 7), not only are all the seventeen arms of the hinder ray entirely unprovided with food-grooves, but more or fewer of the closely crowded arms on each of the other rays are in the same condition, as they do not receive branches of the dividing groove-trunks which supply their fellows.

Faint lines are sometimes visible, indicating the directions which these grooves should have taken, *i.e.*, the positions of the simple water-vessels which are distributed to the ungrooved arms, but give off no tentacular branches. This is particularly well seen in the case of the posterior ray and parts of the hinder divisions of the two lateral rays of *Actinometra magnifica* (Pl. LVI. fig. 7). The primary groove-trunk, which leaves the right lower corner of the peristome to supply the right and posterior rays, divides into two principal branches before reaching the equator of the disk in which the anal tube is situated.

[1] The specific formula of *Actinometra jukesi* is—a. R. $\frac{db}{2}\left[\frac{a}{a}; \begin{smallmatrix}\text{in young}\\ \text{individuals}\end{smallmatrix}\right]$.

[2] The specific formula of *Actinometra stelligera* is—a. 2. 2. $\frac{a}{a}$.