

The number of ambulacra reaching the peristome was thus the sole character by which Müller proposed to separate *Actinometra* from the majority of the Comatulæ then known to him; and the discovery that five symmetrically distributed ambulacra might converge on an excentric mouth led him to regard the grouping of the ambulacra as a character of less systematic value than he had previously attributed to it, so that the name *Actinometra* was reduced from generic to subgeneric rank.

It is curious that Müller should have attached so much importance to the number of ambulacra converging on the peristome, and so little to the excentric position of the mouth and the accompanying enlargement of the anal interradius which he had described so clearly. For whether the number of primary ambulacra be three, four, or five, as he figured in *Comatula solaris*, *Comatula wahlbergi*, and *Comatula multiradiata* respectively, the mouth is always excentric, and the anal tube in the middle of the horseshoe-shaped curve formed by the two posterior ambulacra. The *Comatula multiradiata* which he figured¹ was not the dry Retzian type bearing this specific name which he had already referred to *Actinometra*, but a spirit specimen in the Paris Museum which had been identified with the *Comatula multiradiata* of Lamarck. It has an excentric mouth, but five primary ambulacra which Müller described as distributed symmetrically to the different groups of arms,² and it was therefore referred by him to the subgenus *Alecto*. Except as regards "die Bildung des Scheitels," however, his specific description of *Alecto multiradiata* was simply a reproduction of that which he had given of the dry *Asterias multiradiata*, Retzius. He had stated expressly that this showed the same horseshoe-like distribution of the ambulacra as his type species of *Actinometra*; and his subsequent reference of it to *Alecto* is therefore difficult to understand. The number of *Actinometra* species thus became reduced to three, viz.—(1) the type, *Comatula (Actinometra) solaris*, Lam., sp., with which Müller was inclined to unite *Asterias pectinata*, Retzius; (2) *Comatula (Actinometra) wahlbergi*, Müll.; and (3) *Comatula (Actinometra) rotalaria*, Lam., sp. All three of these had been previously referred by Müller to *Alecto*, which name he used in place of *Comatula*, Lamarck, as being one of older date; but when, later on, he referred them to a subgenus *Actinometra* in which the number of ambulacral grooves joining the excentric mouth is less than five, he used *Alecto* as a subgeneric name for the species with five grooves, irrespective of the position of the mouth. Fifteen species were definitely referred to this latter type in Müller's final memoir, and three to *Actinometra*, the remaining seventeen being simply mentioned as *Comatula*, without any further detail.

More than a dozen years elapsed after the publication of Müller's systematic work

¹ *Abhandl. d. k. Akad. d. Wiss. Berlin*, 1847 [1849], p. 245.

² Müller's diagram of the disk of this specimen is somewhat idealised, for it only represents forty arms disposed in five groups of eight each; whereas their number is really forty-nine, and the arrangement of the five primary ambulacra at the peristome is by no means so symmetrical as shown in his diagram.