

do in theory, he is by no means consistent in practice. Two of his new species, *Antedon reginæ*¹ and *Antedon briareus*,² are represented by single specimens only; the palmars in the former and the post-palmars in the latter, as shown in his figures, are not complete all round the calyx, so that the number of arms is thirty-eight and seventy-one respectively instead of forty and eighty. The corresponding symbols are therefore enclosed within brackets in his specific formulæ.

From my experience with *Actinometra parvicirra* I can quite believe it possible that examples of *Antedon reginæ* may eventually be found in which there are no palmars and so not more than twenty arms; but until this is the case I see no reason to enclose the sign for the palmars between brackets in the specific formula. Since, too, there may be an axillary beyond the post-palmar in *Actinometra briareus* with its seventy to eighty arms, I do not think it probable that examples of the type will ever be found without some post-palmar series, *i.e.*, with forty arms or less; and the use of the brackets in this case would be extremely misleading, though it is no doubt correct for the subsequent division, which Bell ignored altogether. But even in this case I should wait to use the brackets till the obvious reasons for doing so presented themselves.

Bell does not always follow his own rule of employing brackets when the arm-divisions are not equal all round the calyx. Thus he describes *Antedon irregularis* as having eleven to twenty-two arms, and he figured an individual in which half the primary arms do not bear distichal axillaries.³ He does not, however, put the sign for the distichals within brackets, as he ought consistently to do; for the presence of the distichal axillary is a character which, as he expresses it, "frequently but not always obtains" in this species. In like manner his figure and description of *Antedon elegans*⁴ show that half, *i.e.*, five, if not more, of the primary arms may remain undivided. But he does not put the distichal figure in brackets as his system demands. His most serious lapses in this respect are indicated by his formula for *Actinometra parvicirra*.⁵ He gives it as A'.3.3. No brackets being used at all, the reader is led to infer that the presence of three distichals and three palmars is a character which "always obtains" in this species. But I described some specimens in 1879 which had only twenty arms and no palmars developed at all; while I also figured one with only three of the ten distichal

¹ Report on the Zoological Collections made in the Indo-Pacific Ocean during the Voyage of H.M.S. "Alert," 1881-82, London, 1884, p. 115.

² Bell's formula for this type is very incorrect. Not only has he referred it to *Antedon* when it is in reality an *Actinometra*, but he twice stated that the post-palmar series consist of two joints without syzygies in the axillaries (pp. 155, 163); whereas as a matter of fact his figure on pl. xiv. shows that this is only the case in nine out of the twenty-seven post-palmar series, just one-third of the whole!! In all the remaining eighteen series there are three joints like the distichal series, with a syzygy in each axillary; and this arrangement, which occurs in two-thirds of the divisions, should therefore be regarded as typical. Furthermore there are four cases of axillaries above the post-palmars, three of which have syzygies like the distichal axillaries. Bell takes no notice of these, however, and so misses the opportunity of contrasting this type, a.3.2.3.3 with *Actinometra alternans*, a.3.2.3.2; and from the formula which he gives, A.3.2(2), one would be led to imagine that the specific relations of the type were rather with *Actinometra multifida* (a.3.2.2).

³ "Alert" Report, p. 161, pl. xiii. fig. A.

⁴ *Ibid.*, p. 162, pl. xiii. fig. B.

⁵ *Ibid.*, p. 155.