

with the bases of some arms preserved as far as the second syzygy; while the other is peculiar in having two distichal series, each consisting of two articulated joints, so that the number of arms is raised to twelve. No trace of this arrangement appears on any of the other nine specimens, but on the other hand there is no indication whatever of its being due to fracture and subsequent regeneration, as is sometimes the case in other Comatulæ. A similar variation from the ordinary ten-armed type towards the bidistichate group has been described by Dendy¹ in *Antedon rosacea*, and another is presented by *Antedon flexilis* (Pl. XLII.); while *Antedon anceps*, *Antedon dubia*, and *Antedon multispina* are ten-armed species which are occasionally varied by the intercalation of tridistichate series.

If the discovery of better preserved material should show that the bidistichate condition of *Antedon lusitanica* is a natural one and not a mere accidental variation, the type will be worthy of special notice as the only *Antedon* found in European Seas which has normally more than ten arms. It is already distinguished as the only European *Antedon* with a plated disk and brachial ambulacra. The condition of the specimens which I have been able to examine is not such as to afford much information respecting the character of the ambulacral plates on the pinnules; but it is sufficient at any rate to show that sacculi are present and fairly well developed, as is not always the case in species which have an ambulacral skeleton.

Antedon lusitanica was dredged at 740 fathoms in the East Atlantic, and its nearest ally is undoubtedly *Antedon breviradia*, from 630 and 1350 fathoms in the South Pacific (Pl. XIX). Both species have short and wide second and third radials, *Antedon lusitanica* especially so, while in most examples of this type the margin of the axillaries and first brachials is much less rounded than the rest of their dorsal surface, and seems to stand off from it as lateral processes, a character which is scarcely perceptible in *Antedon breviradia*. The first pinnules of the two species are also different. The keels on the inner edge of their lower joints in *Antedon lusitanica* are less prominent than in *Antedon breviradia*, but at the same time they are more distinctly separated from one another than is the case in that type; while the lower cirrus-joints are relatively longer. (Pl. XIX. figs. 1, 2; Pl. XXXIX. fig. 3).

5. *Antedon breviradia*, n. sp. (Pl. III. figs. 4, 5, *a-c*; Pl. XI. fig. 5; Pl. XIX.; Pl. XX. figs. 1, 2).

Specific formula— $A. \frac{b}{c}$.

Centro-dorsal hemispherical or bluntly concave, roughened at the dorsal pole, and bearing fifteen or twenty cirri. These have forty to fifty joints, or a few more, of which

¹ Description of a twelve-armed Comatula from the Firth of Clyde, *Proc. Roy. Phys. Soc. Edin.*, 1886, vol. ix. p. 180, pl. x.