

# MORPHOLOGY.

---

## I.—GENERAL INTRODUCTION.

The Comatulæ constitute a group of Neocrinoids, which is so extensive, and differs so much from the remaining members of the order, that a subordinal rank may not improbably come to be assigned to it. The great variety and extensive distribution of the species of *Antedon* and *Actinometra* at the present time recall similar facts about *Pentacrinus* and *Millericrinus* in the Mesozoic rocks, and about *Actinocrinus* and *Platycrinus* in the Palæozoic series.

Although a few Palæocrinoids, such as *Agassizocrinus* and *Edriocrinus*, seem to have been stemless and unattached in the adult condition, the enlargement of the top joint of the larval stem into a cirrus-bearing centro-dorsal is not known to have occurred in any Palæozoic, or even in any Triassic Crinoid; while the physiological condition of the young *Edriocrinus* has been frequently reproduced in the Mesozoic Holopidæ and in the recent genus *Holopus*, which inhabits comparatively shallow water in the Caribbean Sea, side by side with the free Crinoids or true Comatulæ.

The real nature of the latter group was long misunderstood. Linck and Linnæus followed Llhuyd in regarding them as peculiar forms of the Sea-stars, to which the general name *Asterias* was assigned by the great Swede. Early in the present century, however, the free Crinoids were separated from the Asterids and Ophiurids by Lamarck. But he entirely failed to recognise their relationship to Guettard's *Pentacrinus*, which he placed among the Polypes, together with the various species of fossil Crinoids.

Five years before Lamarck wrote, the genus *Antedon* had been established by de Fréminville<sup>1</sup> for a Feather-star from tropical seas; while in the next year Leach<sup>2</sup> united all the known species of this type of the Echinodermata under the one genus *Alecto*. A similar step was taken in 1816 by Lamarck,<sup>3</sup> who proposed the genus *Comatula* and assigned to it eight species, six of them being new. One of these had been previously

<sup>1</sup> Mémoire sur un Nouveau Genre de Zoophites de l'Ordre des Radiaires, *Bull. Soc. Philom. Paris*, Bd. ii. pp. 349, 350, 1811.

<sup>2</sup> *The Zoological Miscellany*, London, 1815, vol. ii. p. 61.

<sup>3</sup> *Histoire Naturelle des Animaux sans Vertèbres*, éd. 2, Paris, 1816, tom. ii. p. 530.