

Neocomian of Switzerland. The generic value of the type was doubted by Schlüter;¹ and I had formerly myself some hesitation in regarding it as equivalent to *Antedon*, *Actinometra*, and *Promachocrinus*.² For there is no definite character, except the simplicity of the rays, which can separate *Eudiocrinus* from the ordinary ten-armed *Antedon*; and in one of the three species of the ten-rayed *Promachocrinus* the rays divide so as to form twenty arms (Pl. LXX.), while in the two others there are ten undivided rays (Pl. LXIX. figs. 5, 9, 10). But this character alone would hardly justify the separation of the simpler type of *Promachocrinus* from the twenty-armed form; while I have an abnormal specimen of an *Antedon* with only nine arms, owing to one of the rays not dividing, which is the case with all the rays of *Eudiocrinus*.

Nevertheless, it sometimes happens that a character, which is only of specific value in one type, may be of generic value in another. Five recent species of *Eudiocrinus* are known, four of which range from Japan into the South Pacific Ocean (lat. 37° S.), while one occurs in the East Atlantic, and another has been found fossil in the Neocomian of Switzerland. The simplicity of the rays thus appears to be a character of some morphological importance, and I am, therefore, disposed to admit the generic position which was originally assigned to the type by Semper. Unfortunately, however, it cannot continue to bear the name by which he described it. For Salter, fifteen years before Semper's description of *Ophiocrinus*, had designated by the same generic name an obscure Crinoid from the Devonian of South Africa; and the confusion thus existing was increased by the posthumous publication in the year 1878 of the late Professor Angelin's monograph of the Swedish Silurian Crinoids, in which the name *Ophiocrinus* is connected with a third and totally distinct type.

Professor Semper's genus being thus preoccupied, I proposed in 1882 to call the type *Eudiocrinus* (ἔυδιος, calm), in allusion to the fact that the four recent species of it, which were then known, were limited to the Pacific Ocean. Curiously enough, however, a few months before I suggested this name, several specimens of a new species of *Eudiocrinus* were dredged by the French exploring vessel "Travailleur" in the Gulf of Gascony, and, therefore, in European Seas. The type was naturally designated as *Eudiocrinus atlanticus* by Professor Perrier,³ who gave a brief description of the characters which distinguish it from the Pacific species.

Eudiocrinus, like *Antedon*, has a central mouth (Pl. VI. fig. 2), and a more or less hemispherical or conical centro-dorsal, an isolated specimen of which could not be distinguished from the corresponding part of an *Antedon* (Pl. III. fig. 7a; Pl. VI. fig. 1; Pl. VII. figs. 1, 3, 4). The radials, however, in the only recent species which I have been able to examine, differ slightly from those of the ordinary *Antedon*-type which is illustrated on Pls. I.-IV. The articular faces are low relatively to their width (Pl. III.

¹ *Zeitschr. d. deutsch. geol. Gesellsch.*, 1878, p. 40.

² *Comptes rendus*, 1883, t. xcvi. No. 11, p. 725.

³ *Quart. Journ. Geol. Soc.*, 1879, vol. xxxvi. p. 41.