

"Porcupine" and Challenger species, Sir Wyville named them *Pentacrinus wyville-thomsoni* and *Pentacrinus maclearanus*; and the plate which was drawn under his supervision was lettered *Pentacrinus asteria* (Pl. XI.).

We may therefore feel tolerably certain that Sir Wyville had recognised the inexpediency of limiting the name *Pentacrinus* to the Liassic species only, though their generic differences from the recent Pentacrinidæ had been noticed by him.

We have seen that the name *Cenocrinus*, which was applied by Sir Wyville in 1864 to the classical species *Pentacrinus caput-Medusæ* of Miller and Müller, was afterwards dropped by him; but I cannot make out whether or not this arose from his becoming acquainted with the genus *Cainocrinus* which had been established twelve years previously by Forbes.¹ The essential difference between this type and *Pentacrinus*, as defined by Forbes, is that the pelvis or basal ring of *Pentacrinus* is "composed of a single piece formed out of five anchylosed plates," while that of *Cainocrinus* is "formed out of five free plates." These are seen in Forbes's figure to compose a closed basal ring which separates the radials from the top stem-joint; and this is not the case with the basals either of *Extracrinus* or of *Pentacrinus asterius*, the only recent species known to Forbes.

What Sir Wyville thought of Forbes's genus I cannot say. He never referred to it, and the fact of his having himself proposed *Cenocrinus* as a subgeneric type looks rather as if he had not been previously acquainted with *Cainocrinus*. In any case, however, whether he knew it or not, he still referred to the same genus *Pentacrinus*, the species which was dredged by the "Porcupine" in 1870, and was named after himself by his colleague Dr. Gwyn Jeffreys,² F.R.S.; and this is in all respects a true *Cainocrinus* with a closed basal ring (Pl. XIX. figs. 6, 7; Pl. XX. figs. 1-3). Quenstedt³ was unable to see any essential difference between *Cainocrinus* and *Pentacrinus*; but de Loriol,⁴ writing about the same time, took a different view. Unaware of Forbes's genus, he proposed to establish a new genus *Picteticrinus* for a fossil species of *Pentacrinus* presenting the then unusual character of a closed basal ring. But he subsequently discovered this to be a feature of the type described by Forbes as *Cainocrinus*, which he adopted as a generic name instead of *Picteticrinus*;⁵ and he referred to this type a species that had been originally supposed by Desor⁶ to belong to von Meyer's genus *Isocrinus*, which has been discussed above (*ante*, p. 271). *Cainocrinus* was regarded by de Loriol as establishing a transition between *Millericrinus* and *Pentacrinus*. He defines *Pentacrinus* as differ-

¹ Monograph of the Echinodermata of the British Tertiaries, pp. 33, 34.

² *Proc. Roy. Soc. Edin.*, vol. vii., 1872, p. 767; and also *The Depths of the Sea*, p. 444.

³ *Encriniden*, p. 269.

⁴ *Monographie Paléontologique et Géologique des Étages Supérieurs de la formation Jurassique des Environs de Boulogne-sur-Mer*, 2^me partie, p. 297.

⁵ *Swiss Crinoids*, p. 111.

⁶ *Notice sur les Crinoïdes suisses*, *Bull. Soc. d. Sci. Nat. de Neuchatel*, vol. i. p. 213.