

figure of that type. But it corresponds in every respect with the two individuals in the national collection which Sir Wyville himself described in 1864 as *Pentacrinus* (*Neocrinus*) *decorus*. A large number of examples, obviously of the same type, were dredged by the "Blake"; and I have no hesitation in considering *Pentacrinus decorus* as a good species; though for reasons given above I do not regard it as a type of subgeneric value. In fact Sir Wyville himself seems to have recognised this subsequently; for while still confounding *Pentacrinus decorus* with *Pentacrinus mülleri*, he dropped the names *Cenocrinus* and *Neocrinus* altogether, and simply spoke of *Pentacrinus asterius* and *Pentacrinus mülleri*.

*Pentacrinus decorus* differs from *Pentacrinus blakei* and *Pentacrinus naresianus* in the flatness of the syzygial faces on the arm-joints (Pl. XXXVII. figs. 3, 4), both these species having strongly angular syzygial faces (Pl. XXXa. figs. 9, 10; Pl. XXXII. figs. 4, 5, 7, 9, 12, 14). *Pentacrinus naresianus* has only ten arms, while the primary arms of *Pentacrinus decorus*, like those of *Pentacrinus blakei*, may divide once or twice. The second division is, however, more common in *Pentacrinus decorus* than in *Pentacrinus blakei*, in which palmar series are rare (Pl. XXXI.); though distichals generally occur with considerable regularity all round the cup, which is by no means always the case in *Pentacrinus decorus* (Pls. XXXV., XXXVI.). The general characters of the pinnules and of their ambulacral plating are much the same in the two species; but the two sets of ambulacral plates are on the whole much better differentiated in *Pentacrinus blakei* than in *Pentacrinus decorus* (Pl. XXXIII. fig. 1; Pl. XXXVII. figs. 23, 24). In the latter species (Pl. XXXIII. fig. 4) the arm-groove itself is more completely covered in by the bases of the pinnule-ambulacra, which overlap one another alternately from opposite sides much more perfectly than in *Pentacrinus blakei* (Pl. XXXIII. fig. 3). But the perisome covering the muscular bundles in the intervals between the ventral edges of the arm-joints is not plated in *Pentacrinus decorus* (Pl. XXXIII. figs. 4, 6) as it is in *Pentacrinus blakei* (fig. 3), and also in some other Pentacrini previously described, together with some species of *Metacrinus*. But the chief and most obvious difference between *Pentacrinus decorus* and *Pentacrinus blakei*, apart from the peculiarities of the brachial syzygies in the latter species, lies in the characters of the stem. The internodes in most stems of *Pentacrinus decorus* are considerably longer than those of *Pentacrinus blakei*, as is evident upon comparison of Pls. XXXIV. and XXXVII. with Pl. XXXI.; and the nodal joints are markedly different in the two species. Those of *Pentacrinus decorus* are considerably enlarged above the deeply hollowed cirrus-sockets (Pl. XXXVI.), so that the outline of the stem is not uniform as it is in *Pentacrinus blakei* (Pl. XXXI. fig. 3); while the contour of the nodal joints as seen from beneath is less rounded in *Pentacrinus decorus* (Pl. XXXVII. fig. 21) than in *Pentacrinus blakei* (Pl. XXXII. fig. 1). The general appearance of the infra-nodal joints (Pl. XXXII. fig. 2; Pl. XXXVII. fig. 19) and also of the ordinary