

the basals, as it crosses the former at a variable distance from their lower angles. In a few cases, however, the basiradial suture is more uniformly horizontal, and not marked by alternate elevations and depressions (Pl. X. fig. 3); so that the furrow really does indicate the line of separation between the basals and radials. But this is far from being the case in Prof. Perrier's drawing of the *Democrinus* calyx.

The fragmentary condition or absence of the arms in his specimens is nothing unusual. Only one-third of all the individuals of *Rhizocrinus rawsoni* which I have examined have any arms at all, including the young form represented in Pl. LIII. fig. 7. There may, however, be as many as one hundred and twenty joints, or rather sixty syzygial pairs, with pinnules on all but the first three or four. But they are very apt to break away at the syzygy in the first brachial, which Perrier speaks of as an articulation between a radial axillary and the lowest arm-joint. This had happened in two of his three specimens of *Democrinus*, which are "totalement dépourvus de bras; le troisième n'en présente que des restes très courts, d'après lesquels il est aisé de voir que les bras devaient être extrêmement peu développés." The drawing of this individual which he has sent me shows that its longest arm-fragment consists of only five joints, *i.e.*, two composite brachials and the hypozygal of a third. This fully accounts for the absence of pinnules, which never appear below the third epizygal in any *Rhizocrinus*; and I have little doubt that further research will prove the existence of properly developed, pinnule-bearing arms in the so-called *Democrinus*. But I do not suppose that they are quite as fully developed as those of the Caribbean variety of *Rhizocrinus rawsoni*. This has a stem more than twice the width of that of *Democrinus*; and it is generally more robust, though the calyx is distinctly shorter and broader than in Perrier's type.

The "Travailleur" specimens are of interest, both on account of their aberrant form, and because they give another locality for *Rhizocrinus rawsoni* in the East Atlantic in addition to the two discovered by the "Porcupine" in 1869; while the "Talisman" met with another locality of the type during the dredgings of 1883.¹

It is remarkable for its close resemblance to the *Rhizocrinus londonensis* from the London Clay, isolated stem-joints of which were referred by Forbes² to *Bourgueticrinus*. But a well preserved and very characteristic calyx has since been discovered, and is now to be seen in the Natural History Museum at South Kensington.

¹ *Democrinus* dies hard. Perrier's mistake about the condition of the basals in *Rhizocrinus* was pointed out in the *Ann. and Mag. Nat. Hist.*, ser. 5, vol. xi., 1883, p. 334. Under these circumstances the character on which he relied as distinguishing *Democrinus* from *Rhizocrinus* became non-existent; and I therefore expressed my conviction that *Democrinus Parfaiti* and *Rhizocrinus rawsoni* were identical. Perrier, however, appears to be of a different opinion, for in the Preliminary Report of Mons. A. Milne-Edwards, the President of the "Talisman" Commission of 1883, *Democrinus* is specially mentioned as one of the captures (*Comptes rendus*, t. xcvi. p. 1392); while in the semi-official account of the collection published in *La Nature* (No. 572, p. 391) by Mons. H. Filhol, also a member of the Commission, particular reference is made to *Democrinus Parfaiti*. As the addition of a new generic type to the family Bourgueticrinidæ is of considerable importance in many ways, Prof. Perrier's revised account of its characters will be awaited with interest, both by zoologists and by palæontologists.

² British Tertiary Echinoderms, p. 36.