

brachials immediately succeeding an axillare (Plate I, fig. 4) lends some colour to this suggestion. On the other hand such arm-structure is quite common among Dicyclica Inadunata. The sutures between the brachials of *Ottawacrinus* are not curved as they so generally are in the Flexibilia. Further, its anal tube is far more reminiscent of the Inadunata, especially of the so-called Fistulata, than of any member of the Flexibilia. The stem is like that of many other Inadunata, and has no persistent proximale. On this last feature, however, no stress should be laid, for a proximale is, I understand, no longer regarded as diagnostic of Flexibilia by the survivor of the two authorities who had previously maintained it. It is a matter on which I was always sceptical (see *Geol. Mag.*, July, 1898, p. 324). There is in *Ottawacrinus* a slight widening of the stem towards the cup, but, since this amounts to no more than 0.7 mm. in a diameter of 3.2 mm. and in a length of 5.4 mm., it is scarcely enough to constitute a proximal conc such as is so common in Flexibilia. Turning to the cup we observe no structures that may not be as readily paralleled in Dicyclica Inadunata as in Flexibilia; indeed, more so, for the presence of five distinct infrabasals is quite foreign to the Flexibilia.

On the whole, then, there appear no good grounds for associating *Ottawacrinus* with the Flexibilia, although it would be difficult to deny that the early Flexibilia may possibly have originated from *Ottawacrinus* and allied genera. It is not easy to draw a line between the Flexibilia Impinnata and the Dicyclica Inadunata. But apart from that speculation, neither the new interpretation suggested in the present paper nor the additional facts brought to light involve any change in the systematic position of *Ottawacrinus*. Indeed, the view taken in the "Treatise on Zoology" (p. 178) is confirmed by the discovery of the arm-dichotomy and the structure of the anal tube. Retaining the Order Dicyclica Inadunata, Sub-Order Dendrocrinoidea, and Family Dendrocrinidae, as defined in that book, we may give the following:—

Diagnosis of Ottawacrinus.—A Dendrocrinid with 5 IBB; with all RR transversely bisected, with r. post. and r. ant. Ri resting directly on the corresponding BB; with anal α resting directly on post. B, and supporting two tube-plates.