

name implies, really consists, either wholly or partially, of united basals, the composition of the calyx is the same as in *Holopus* and *Cyathidium*, in fact as in most Neocrinoids, few of which are dicyclic. In all cases of which we have full knowledge, the basals rest upon something representing a stem, the special organ which is so characteristic of the Crinoids. It may perhaps be only a central abactinal plate, which becomes transformed into an expanded disk of attachment, as in the Pentacrinoid larva of *Comatula*. But I strongly suspect on general morphological grounds that the basal element in the cup of a Crinoid does not come into direct contact with the supporting surface; and I have an equally strong suspicion that it is never entirely absent. The radials of all Crinoids, excepting the ordinary *Comatulæ*, rest in fossæ which are separated by interradial ridges that mark the median lines of the united basals (Pl. XX. figs. 2, 3). Such ridges occur in *Cotylecrinus*, the raised angles of the upper edge of the cupule being interradial in position;<sup>1</sup> and I am therefore disposed to agree with Zittel in regarding them as belonging to basals, the lower limits of which are as yet unknown.

There is another character, besides the symmetrical radials, in which *Cotylecrinus* resembles *Cyathidium*. This is the association of two or more individuals in a manner suggestive of a process of budding, both internal and external. Steenstrup noticed this peculiarity in *Cyathidium*, and de Loriol has described it in *Cotylecrinus miliaris*.<sup>2</sup> This last species is further remarkable from the fact that the outer surface both of the cup and of the second radials found associated with it, "est couverte de petites pustules, tantôt un peu écartées, tantôt, au contraire, très serrées." These at once recall the blunt tubercles of *Holopus* (Pls. I., II.).

*Cotylecrinus*, *Cyathidium*, and *Holopus* are evidently very closely allied, though the two former differ from the latter in the symmetry of their radials.

In the remarkable form, which after having been referred to *Plicatocrinus* and also to *Eugeniocrinus*, has been made the type of a new genus *Eudesicrinus* by de Loriol, there are, however, five asymmetrical radials. These rest "sur une base large, assez élevée, adhérente par un épâtement aux corps soumarins. Cette base n'est point une pièce centro-dorsale semblable à celle des *Cotylecrinus*, renfermant les parties molles de l'animal, c'est un simple support." The radials of this type are much higher than those of *Cotylecrinus*, and enclose a less extensive space in the centre of the funnel which they form by their apposition. It narrows considerably below, however, and I question very much whether it contained more than quite a small portion, if any, of the digestive canal. But according to de Loriol<sup>3</sup> "c'est donc dans la cavité formée par les pièces radiales que se trouvaient logées les parties molles de l'animal." I suspect, however, that the greater part of the visceral mass lay above the surface of the cup, and was protected by the two outer radials and lower arm-joints, just as in *Rhizocrinus* and *Bathycrinus* (Pl. VII. figs. 2, 3; Pl. IX. figs. 1, 3; Pl. X. fig. 20).

<sup>1</sup> Paléont. Franç., *loc. cit.*, pl. 20, figs. 1, 2, 5, 6.

<sup>2</sup> *Ibid.*, p. 204, pl. 19, figs. 15, 17.

<sup>3</sup> *Ibid.*, p. 98.