

The cephalis of the Zygospyrida possess all the characteristic features which we have described above as belonging to the S p y r o i d e a in general (p. 1017), and a survey of the Pls. 84-87 exhibits the most important modifications of its shape (compare also Pl. 95, figs. 1-13). Therefore we may avoid useless repetitions by referring to the description given above. We will only point out that the bilocular character of the cephalis (in opposition to the simple cephalis of the Monocyrtida) in the majority of Zygospyrida is apparent on the first view, and that it is always demonstrated by an accurate examination of the sagittal ring and its relation to the longitudinal constriction of the cephalis (compare p. 1019). The basal plate or cortinar plate exhibits usually four typical pores (two smaller jugular, *i*, and two larger cardinal, *k*), but this is by no means a general rule, as Bütschli thought; moreover, instead of four cortinar pores, there are frequently found three or six or some other numbers (compare above, p. 1018).

The top of the cephalis in the majority of Zygospyrida bears an apical horn, as an upper prolongation of the dorsal rod of the sagittal ring; it is often of unusual size and shape (Pl. 85, figs. 5-11; Pl. 95, fig. 8, &c.). In several genera two lateral or frontal horns are developed on both sides of the former (Pl. 84, figs. 9-12; Pl. 86, figs. 5-13). Sometimes these two alone are present, while the original apical horn is lost by reduction (Pl. 95, fig. 12). In other genera the apical face bears no horns; probably they are lost by reduction.

The greatest variety of forms is produced in the Zygospyrida by the different number, disposition, and shape of the feet, or the basal apophyses arising from the base of the cephalis. Regarding these remarkable differences, we may distinguish eight subfamilies. The common ancestral group of all are probably the Tripospyrida, which possess the three typical basal feet of *Cortina* and *Cortiniscus*, an odd caudal and two paired pectoral feet (Pl. 84). From these may be derived the Dipospyrida (Pl. 85) by loss of the caudal foot, the Tetraspyrida by development of an odd sternal foot (Pl. 53, figs. 7, 8, 19), and the Hexaspyrida by development of three secondary interradial between the three primary perradial feet. The Pentaspyrida may have been derived from the latter by loss of the sternal foot (Pl. 95, figs. 9-11), and the Therospysyrida by loss of the two sagittal feet (Pl. 89, figs. 5, 6). The Polyspyrida bear numerous (seven to twelve or more, often twenty to thirty) basal feet, forming a corona around the cortinar plate (Pl. 87); they may have been derived from the Tripospyrida or Hexaspyrida by further multiplication of the feet. Finally, the Circospyrida exhibit no feet at all (Pl. 89, figs. 7-12); they may be derived either from one of the preceding groups by complete reduction and loss of the basal apophyses, or directly from those Semantida which have no feet (*Semantis*, *Semantrum*, *Clathrocircus*, &c.).