

The primitive Cynthiidæ derived from the ancestral form J. (fig. 11, p. 388) acquired longitudinal folds in the branchial sac and then divided into two series, the one leading to the Styelinæ and the Polystyelidæ, and the other giving rise to the remaining Cynthiidæ and the Molgulidæ. In the primitive Styelinæ the tentacles remained simple, as they were in the ancestral Simple Ascidiæ, and the number of folds in the branchial sac became limited to four on each side. The reproductive organs assumed the form of two or more hermaphrodite masses (called polycarps) attached to the inner surface of the mantle upon each side of the body. At the point K. (fig. 11, p. 388) these ancestral forms divided into two series, those leading to the true Styelinæ on the one hand, and to the primitive Polystyelidæ on the other.

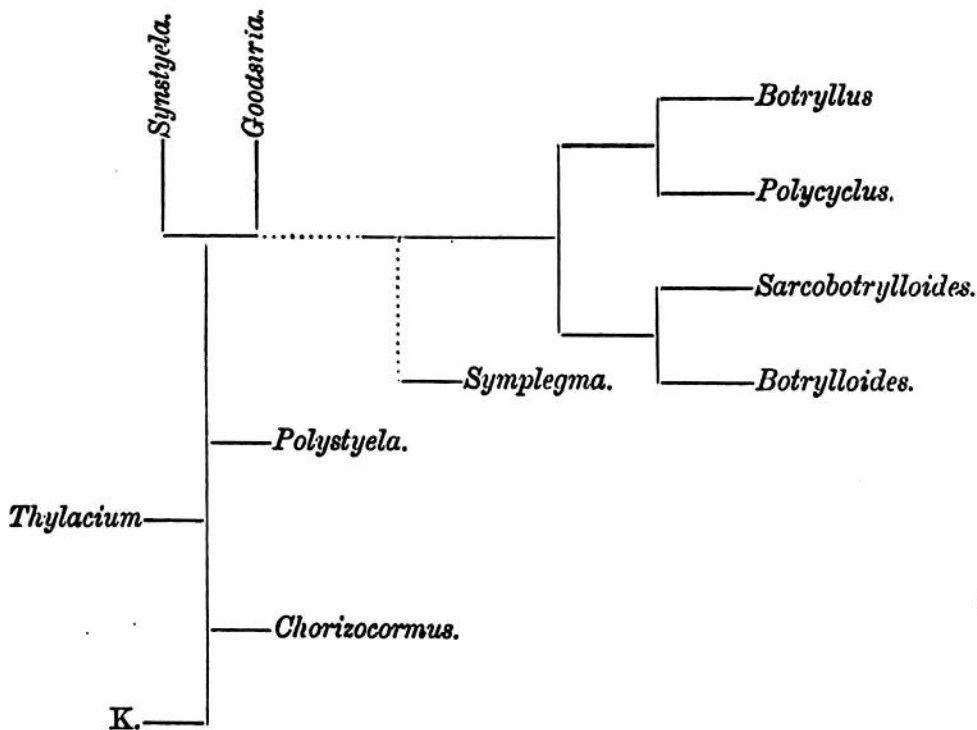


FIG. 15.—Diagram illustrating the phylogeny of the Polystyelidæ and the Botryllidæ, and their possible connection. K. indicates the point where the Polystyelidæ diverged from the Styelinæ.

The genus *Chorizocormus* is an important transition form between the Styelinæ and the Polystyelidæ proper (see p. 345). It is probably the nearest form known to the ancestral Polystyelidæ, and may therefore be placed (see fig. 15) on a short side branch springing from the axis of the Polystyelidæ not far above the point K.

*Thylacium* and *Polystyela* are derived from side branches between the ancestral *Chorizocormus* and the ancestral *Synstyela* or *Goodsiria*. They have the Ascidiozooids projecting somewhat above the general surface of the colony, and therefore bear much the same relation to the higher Polystyelidæ that the genus *Diazona* does to the typical Distomidæ. The axis of the Polystyelidæ finally divides into two branches, allowing the two most highly evolved forms in the family, *Synstyela* and *Goodsiria*, to diverge in opposite directions (see fig. 15). In *Synstyela* the colony has become thin and incrusting,