

on the main stem of the Ascidiæ Simplicis near to the point M. in the table, and which consisted of one or two hermaphrodite polycarps attached to the mantle on each side of the body. In some of the species of *Polycarpa* the polycarps, originally hermaphrodite, have become unisexual, and the ovaria and spermata, as they may then be called, have assumed different characters.

The interesting little group of species composing the family Polystyelidæ, which have been variously regarded as Simple Ascidians belonging to the Cynthiidæ, and as Social Ascidians allied to *Clavelina*, have really, I believe, been derived from the Styelinæ, but should now be regarded as Compound Ascidians, since they seem to reproduce by gemmation so as to form colonies in which the Ascidiozooids are embedded in a common test. Most of the Polystyelidæ have their branchial sacs folded longitudinally, and they all possess polycarps on the mantle, which are in some cases unisexual, consequently there can be little doubt that they are derived from the immediate ancestors of the genus *Polycarpa*, after the separation of *Styela* (see table, p. 150).

The new genus *Chorizocormus*,¹ obtained during the Challenger Expedition at Royal Sound, Kerguelen Island, shows in a most instructive way how the transition from the ancestral *Polycarpa* to the colonial Polystyelidæ was effected. The colony of *Chorizocormus*² consists of a number of small rounded and irregularly-shaped masses joined by a creeping and branching stolon. In some cases each mass contains only one Ascidiozooid, and then it bears the closest possible resemblance to a *Polycarpa*, and is, of course, not embedded in any colonial test; but in other cases a number of Ascidiozooids are placed together in each mass, and they are then completely buried in the test, so as to form a true colony; and all intermediate forms between these two extreme conditions are also found.

Chorizocormus, then, is probably the nearest form known to the ancestral Polystyelidæ (see table, p. 150); while the species of *Thylacium*, *Polystyela*, and *Synstyela* form a series of gradations towards the complete colonies with a massive test found in the genus *Goodsiria* (see table). This genus,³ which is found in the Straits of Magellan growing to a size of upwards of two feet in length, shows various intermediate conditions between distinct branchial folds like those of the Styelinæ, and a smooth branchial sac with no folds, like that found in the Botryllidæ.

In the genera *Thylacium* and *Polystyela* the Ascidiozooids project above the general surface of the colony, consequently these forms bear much the same relation to the other Polystyelidæ that the genus *Diazona* does to the typical Distomidæ. *Synstyela* and *Goodsiria*, the two most highly evolved forms of the family, have diverged in opposite directions (see table, p. 150). In *Synstyela* the colony has become thin and incrusting, while in *Goodsiria* the test is greatly enlarged,

¹ See this Report, Part II. p. 845.

² See this Report, Part II., pl. xlvi. fig. 1.

³ Cunningham, *Trans. Linn. Soc. Lond.*, vol. xxvii. p. 465, 1871; and this Report, Part II. p. 827.