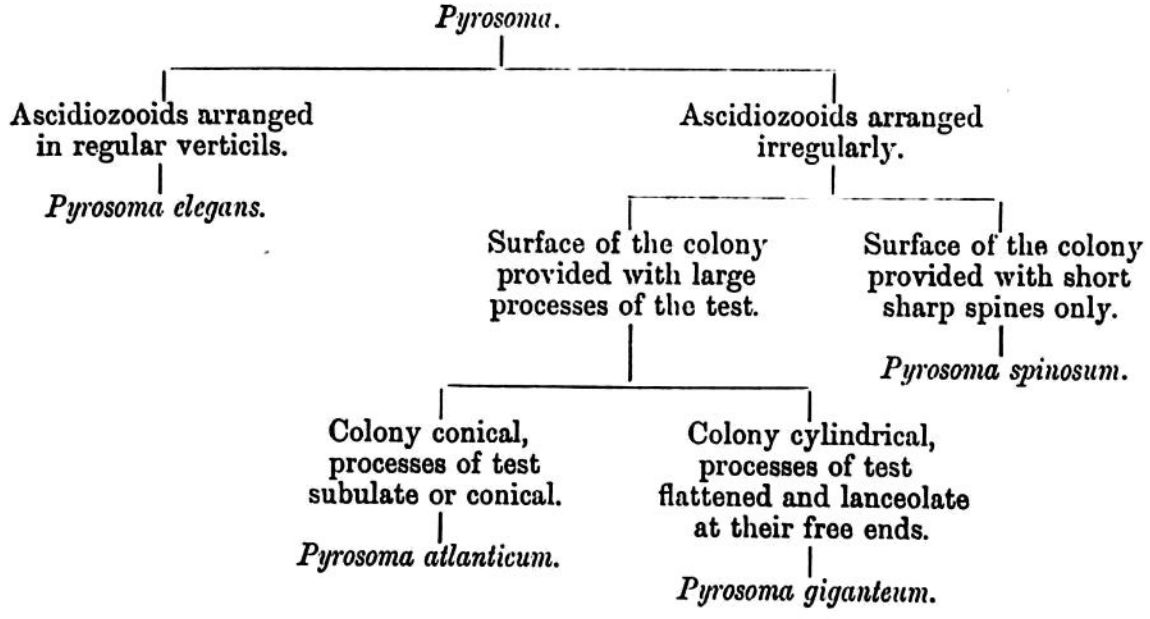
Diplosomidæ amongst the Compound Ascidians, and may possibly occur also in others. Since, then, the two remarkable processes in the life-history of *Pyrosoma*, the asexual production of Ascidiozooids from a ventral stolon, and the embryonic blastogenesis in the sexual reproduction, are both found amongst normal Compound Ascidians; and since the remarkable shape of the colony, and of the adult Ascidiozooids, is seen in the abnormal Compound Ascidian *Cœlocormus huxleyi*, there can, I think, be little doubt that *Pyrosoma* is related to the Ascidiæ Compositæ, and that *Cœlocormus* occupies a position between the two groups.

The following is a scheme of the species in this genus. *Pyrosoma atlanticum* and *Pyrosoma giganteum* are, however, such closely related forms that a number of characters have to be taken into account in distinguishing between them. I know of no one good character by which these species can be separated :—



Pyrosoma atlanticum, Péron (Pl. I. figs. 1–3).

This is the original species described first by Péron in 1804. It is also probably the species investigated by Huxley in 1851. For the characters by which it may be distinguished from the other two older species, we are indebted to Lesueur and to Savigny.

One specimen of *Pyrosoma atlanticum* was obtained by the Challenger Expedition in the surface-net off Cape Verde in August 1873. It is of regular conical form, tapering towards the closed end of the colony. It is of a transparent slightly bluish grey colour.

The measurements are as follows :—

Total length,	9·5 cm.
Breadth close to open end,	3·0 cm.
Do. at closed end,	0·8 cm.
Diameter of common cloacal aperture,	1·3 cm.
Thickness of colony from outer to inner surface,	0·3 cm.