

# Patterns of apical structure in the genera *Gelidium* and *Pterocladia* (Gelidiaceae Rhodophyta)

*Rodriguez, D.; Santelices, B.*

## Abstract

Growth in length of axes and branches in all the genera presently recognized in the Gelidiaceae depends on the activity of a dome-shaped apical cell. The apical cell cuts off segments basipetally by transverse divisions. Each such segment first divides longitudinally into one axial cell and two pericentral cells on opposite sides of the axial cell. Further divisions increase the number of pericentral cells to four. After elongation, the pericentral cells divide obliquely to form the apical cells of the lateral branches of limited growth, with a small quadrate cell remaining at each division. As division continues, the axial filament is surrounded by cells which are at first quadrate and which constitute the medullary tissue of the axis. When the divisions gradually cease, the apical cells of lateral branches of limited growth constitute the outer layer of the cortex (Kylin, 1928; Dixon, 1958; Fan, 1961). Under the effects of as yet unknown environmental factors some of these cortical cells (second order cells, Fan, 1961) may differentiate into an apical cell initiating the growth of lateral branches of unlimited growth (Dixon, 1958).

**Keywords** Seaweed, Apical structure, *Gelidium*, *Pterocladia*, Taxonomy