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Lophothamnion hirtum is one of the most abundant red seaweeds on intertidal platforms in southern New Zealand. It forms distinct small patches scattered among large brown algae at mid and lower tidal levels from May (autumn) to November (spring), but isolated plants can be found in all months except mid-summer (February). This study describes its life history, which was previously unreported. Samples of *Lophothamnion hirtum* were collected monthly from field sites and examined microscopically. Laboratory cultures were grown for 4–5 months. *L. hirtum* does not show a *Polysiphonia*-type life history typically found amongst members of Ceramiales, either in culture or in its natural environment. Polyspores give rise to polysporophytes. No individual functional gametophytes were found. Plants bearing polysporangia, in addition to male and female gametophytes, occurred both in culture and in the field, and from such plants infertile carpospores were produced. Throughout the life of the plants in the field, regenerative cells grew mainly from lower determinate branches and such regenerative cells developed into whole plants. Photoperiod and temperature affected the development of regenerative cells in culture. These developed fastest at 24 h of daylight. Detached branchlets possessed rhizoidal filaments and had the ability to attach to substrata and regenerate. The vegetative reproduction of regenerative cells and detached branchlets clearly help in the dispersal and generational propagation of this species.