**Techniques needed and shape**

**Classification**

*Descriptive name*

**Features**

**Special requirements**

*Descriptive name* § red lettuce

Plants red, 40-120mm tall, of a lobed blade, tough but adhering to paper when dry, wavy and tattered at the edge, attached by a very short stalk

Make squashes of tissue of different plants under the microscope to see

- Core or medulla with numerous thread-like cells attached to very thin arms of star-shaped (stellate) cells, smaller cells forming several fence-like layers in the outermost parts (cortex), some with numerous bright, dot-shaped bodies
- Numerous, young, female structures (carpogonial branch systems, cbs) in the cortex with dense contents bearing a single thread (carpogonium and trichogyne). Additional amoeba-like reproductive stages for receiving fertilized nuclei (auxiliary cell systems) are also relatively prominent in the cortex.

**Occurrences**

Elliston and Pearson I, S Australia. Sporangial plants unknown

**Usual Habitat**

In deep water (to 55m) on rough water coasts

**Similar Species**

*Kallymenia tasmanica* also with single carpogonia in each carpogonial branch system, but with softer blades, flatter at edges, fewer threads in the medulla and indistinct auxiliary cell systems

**Description in the Benthic Flora**

Part IIIA, pages 236-239

**Details of Anatomy**

1. A cross-section of a blade with fence-like layers of outer (cortex) cells (co), inner core of broad threads (medulla, med) and a carpogonial branch system (cbs) (A22164 slide 285)

2. Part of a cross section in detail, with a prominent star-shaped (stellate) cell (st c), medulla threads and rows of cortex cells of different sizes (outer and inner cortex cells, o co, i co) (A22164 slide 2867)

3. Tissue squash with an auxiliary cell system (acs), thin threads (c fil) connecting it to a carpogonial branch system (out of frame), small outer cortex cells (o co) and angular inner cortical cell (i co) with bright bodies (refractive inclusions) (A22164 slide 2867)

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*Kallymenia rubra* stained blue and viewed microscopically showing:

1. A cross-section of a blade with fence-like layers of outer (cortex) cells (co), inner core of broad threads (medulla, med) and a carpogonial branch system (cbs) (A22164 slide 285)

2. Part of a cross section in detail, with a prominent star-shaped (stellate) cell (st c), medulla threads and rows of cortex cells of different sizes (outer and inner cortex cells, o co, i co) (A22164 slide 2867)

3. Tissue squash with an auxiliary cell system (acs), thin threads (c fil) connecting it to a carpogonial branch system (out of frame), small outer cortex cells (o co) and angular inner cortical cell (i co) with bright bodies (refractive inclusions) (A22164 slide 2867)

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Descriptive names are inventions to aid identification, and are not commonly used.

*name used by Edgar, G (2008) in Australian Marine Life (2nd ed.) for the similar species Kallymenia tasmanica*

Prepared initially November 2005, rewritten March 2009
Descriptive names are inventions to aid identification, and are not commonly used. The name used by Edgar, G (2008) in Australian Marine Life (2nd ed.) for the similar species *Kallymenia tasmanica*

Prepared initially November 2005, rewritten March 2009

South Australian specimens of *Kallymenia rubra* Womersley & Norris at different magnifications

4, 5. from Waldegrave I. (A35870), 22m deep on a vertical rock face. The extremely small black dots on the surface of the blade are probably fungal spore structures

6, 7. a drift plant from Elliston (A22164)

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