

Techniques needed and shape



MACRO  
PLANT



Classification

\*Descriptive name

Features

Special requirements



Diagnosis can be difficult

Phylum: Rhodophyta; Order: Gigartinales; Family: Kallymeniaceae  
§ 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

Usual Habitat

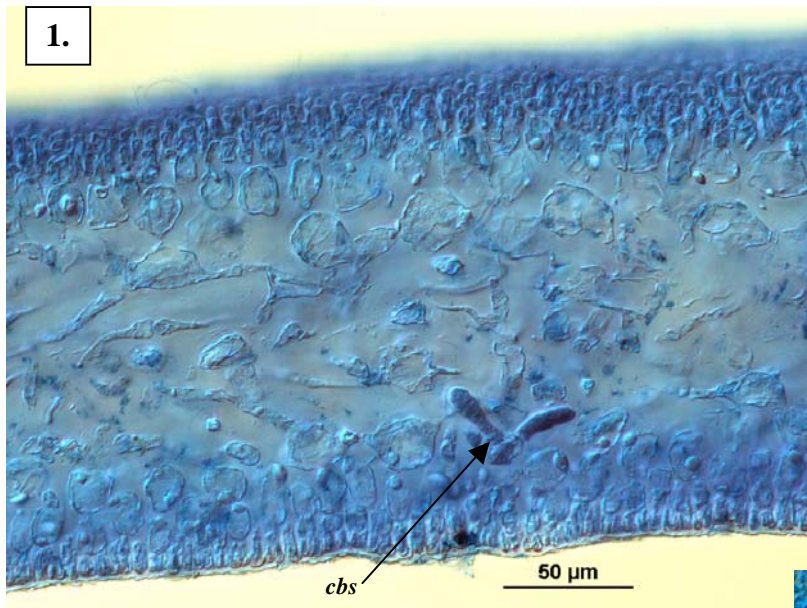
Similar Species

Elliston and Pearson I, S Australia. Sporangial plants unknown in deep water (to 55m) on rough water coasts

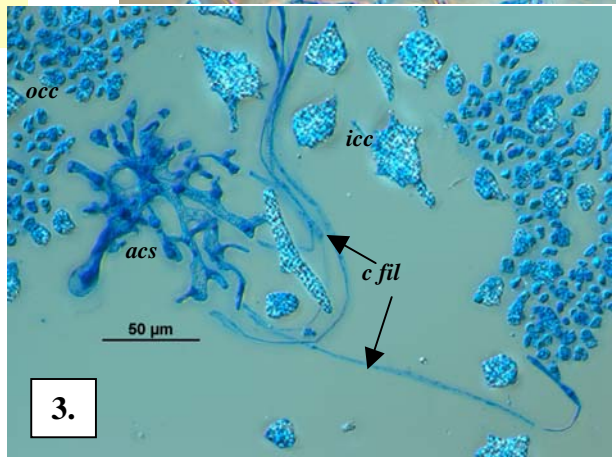
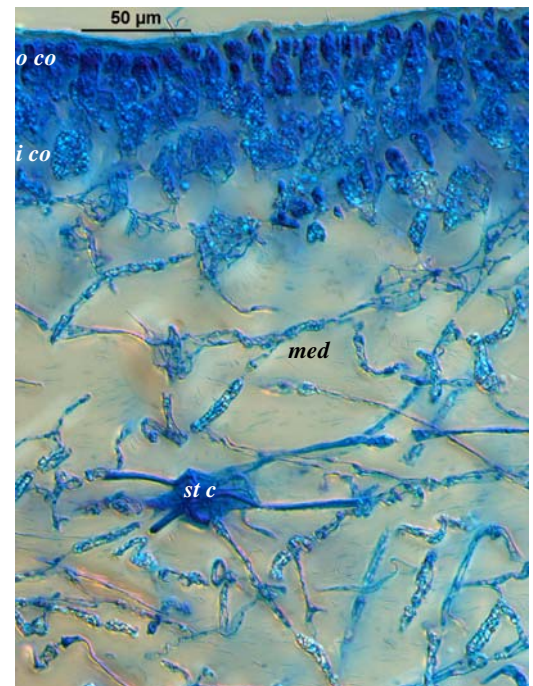
*Kallymenia tasmanica* also with single carpogonia in each carpogonial branch system, but with softer blades, flatter at edges, fewer threads in the medulla and indistinct auxiliary cell systems

Description in the Benthic Flora Part IIIA, pages 236-239

Details of Anatomy



2.



3.

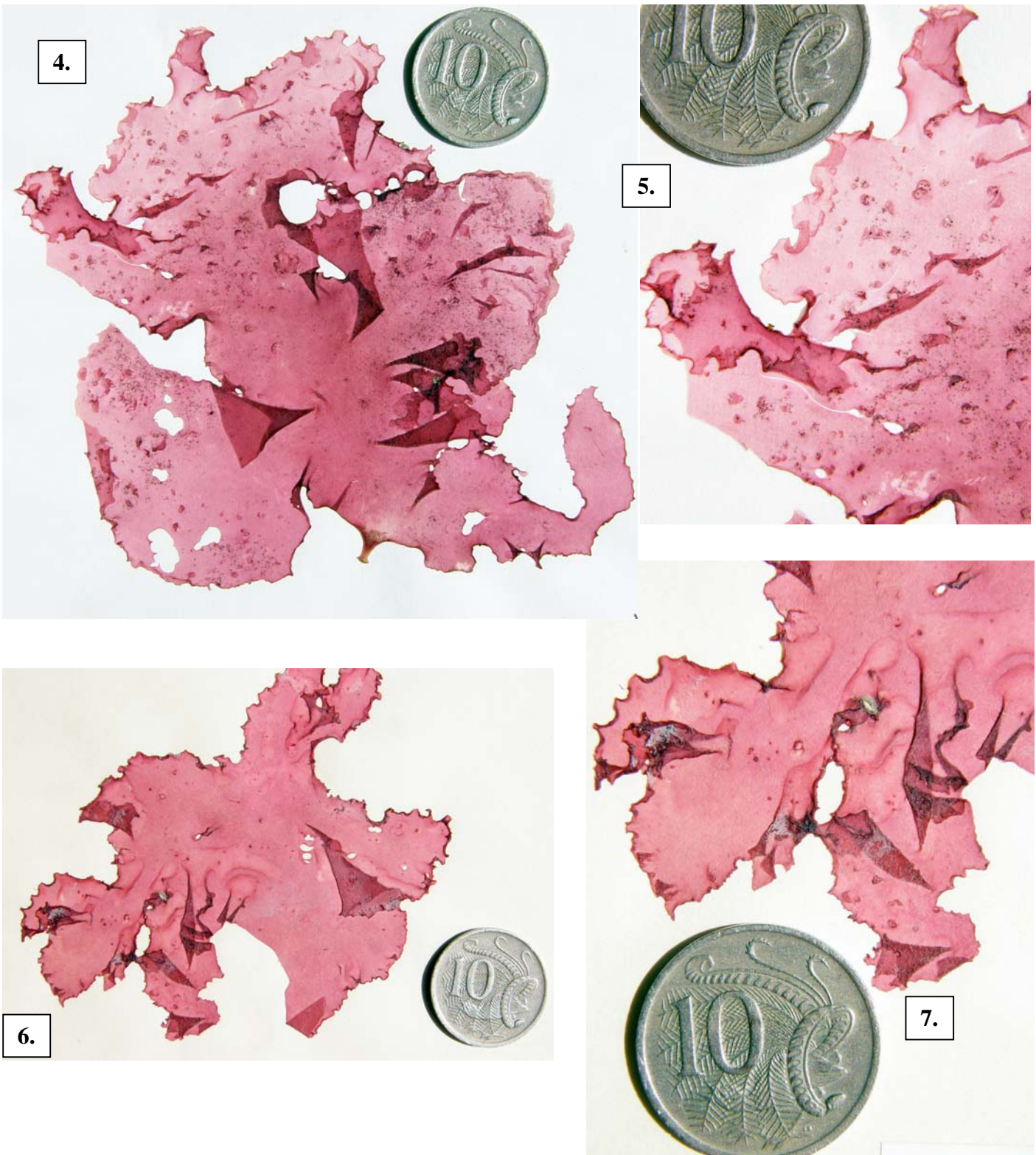
*Kallymenia rubra* stained blue and viewed microscopically showing:

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)

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

§name used by Edgar, G (2008) in Australian Marine Life (2<sup>nd</sup> 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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