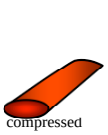
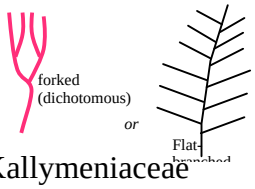
Callophyllis cervicornis
Sonder

45.320

Techniques needed and shape





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

***Descriptive name** flat antler-tips

Features

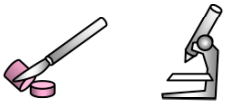
1. plants are red, 40-150mm tall and flat-branched
2. branches are flat, mostly ***1-3mm*** wide, narrower at their bases, forked or ***irregularly branched***
3. mature female structures form bumps mainly ***where branches fork***

Occurrences West Coast S Australia to Victoria

Usual Habitat known only from drift plants

Special requirements

1. cut a slice across a branch and view under the microscope to find the ***wide*** core (medulla) of large compact cells with thick walls, delicate threads running around their margins with cells decreasing in size to narrow outer-most (cortex) layers of ***very small***, cells facing outwards

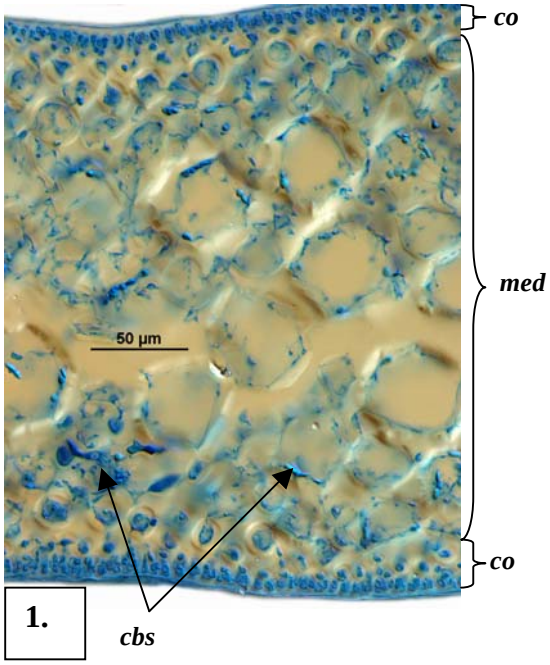


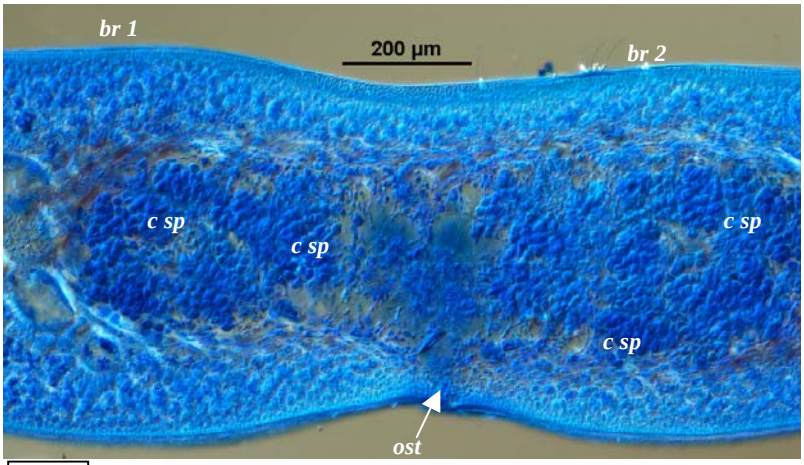
3. find protruding ball-shaped mature female structures (cystocarps) mainly ***where branches fork***. Cut a cross section to see clumps of carposporangia with a few threads between, with an opening (***ostiole***) (a very early stage will show an ***amoeba-like*** group of cells with dense contents)
4. view the surface of sporangial plants under the microscope to see ***scattered*** tetrasporangia divided in a cross (cruciate) pattern

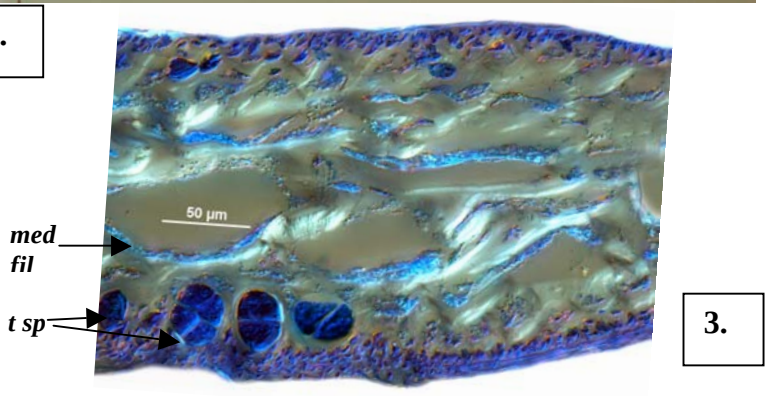
Similar Species *Callophyllis rangiferina* and separation of species can be difficult

Description in the Benthic Flora Part IIIA, pages 253, 255, 257

Details of Anatomy







Sections of *Callophyllis cervicornis* stained blue and viewed microscopically showing:

1. a blade with large thick-walled cells of the core (medulla, *med*)mixed with a few smaller cells, grading to very small outermost cells (cortex, *co*) and dense amoeba-like early female structures (carpogonial branch systems, *cbs*) (A31635 slide 2907)
2. a mature female structure (cystocarp) at the junction of a branch fork (branches 1&2) with bunches of carposporangia (*c sp*) and an opening (ostiole, *ost*) (A27853 slide 2910)
3. lengthwise section showing tetrasporangia (*t sp*) in the cortex and threads (medulla filaments, *med fil*) amongst the egg-shaped medulla cells (A3204 slide 3392)

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

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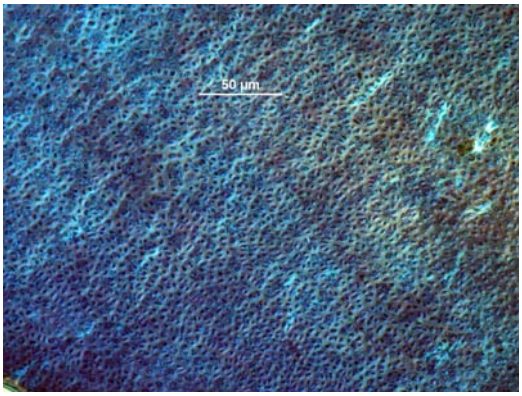
4.



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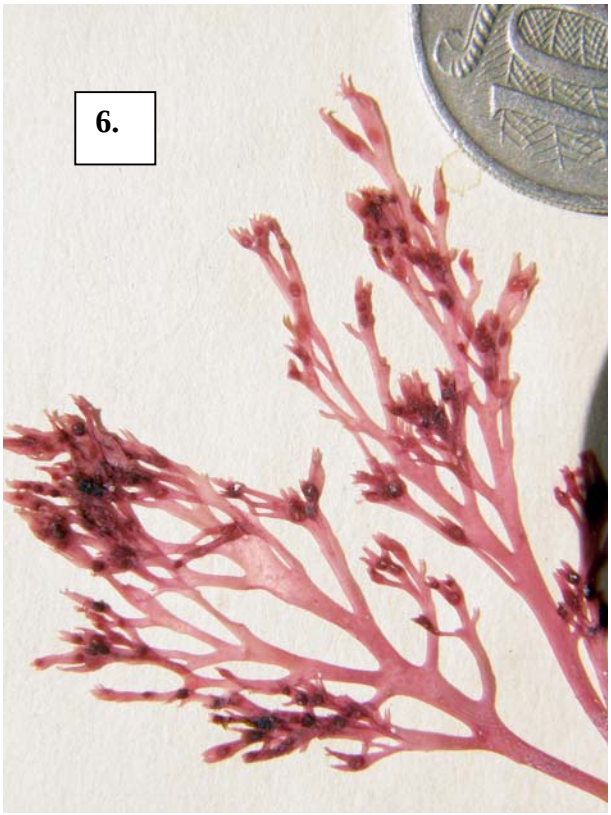

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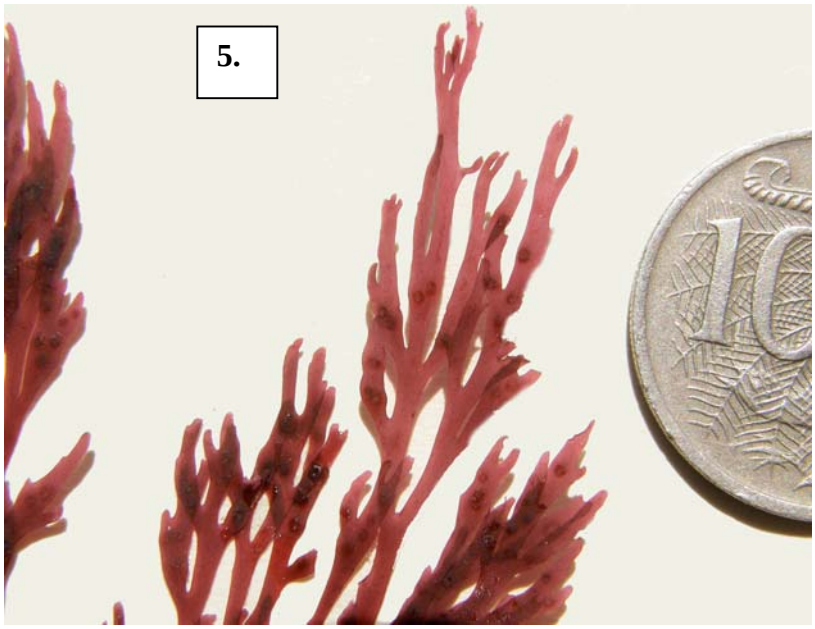

4, 5. a drift specimen of *Callophyllis cervicornis* Sonder (27853) from Robe, S Australia, at different magnifications showing the irregular flat-branching pattern and swollen cystocarps at the fork of branches

6. detail of branches and cystocarps from a drift specimen (A6639a) from Pennington Bay, Kangaroo I., S Australia

7. a surface microscopic view of a specimen stained blue (A35978 slide 3391) showing the small surface cells with vague outlines of the core or medulla cells beneath

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