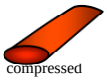
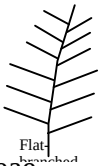
Callophyllis lambertii
(Turner) J Agardh

45.320

Techniques needed and shape





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

***Descriptive name** broad antler tips

Features

1. plants are red, 150-400mm tall, with several main flat branches and dense, flat-branched tufts
2. main branches are flat, mostly about 3mm wide, often denuded leaving spiny branch stubs or sometimes with regrowth forming irregular tufts. Branches narrow to about 1mm wide near tips

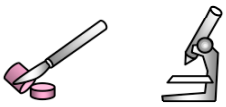
3. mature female structures form swellings near the branch ***tips***

Occurrences Great Australian Bight, S Australia to Victoria and around Tasmania; possibly in New Zealand

Usual Habitat from shallow to deep water

Special requirements

1. cut a slice across a branch and view under the microscope to find the ***wide*** core (medulla) of large compact cells mixed with smaller cells, some thread-like, and outer layers of small, outwardly facing cells



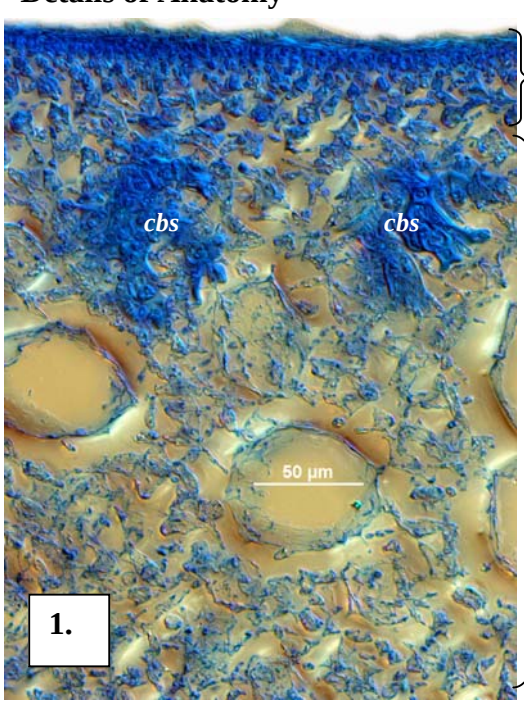
3. find mature female structures (cystocarps) forming swellings ***near branch tips***. Cut a cross section to see clumps of carposporangia with a few threads between, and an opening (***ostiole***) (a very early stage will show an ***amoeba-like*** group of cells with dense contents)
4. view the surface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

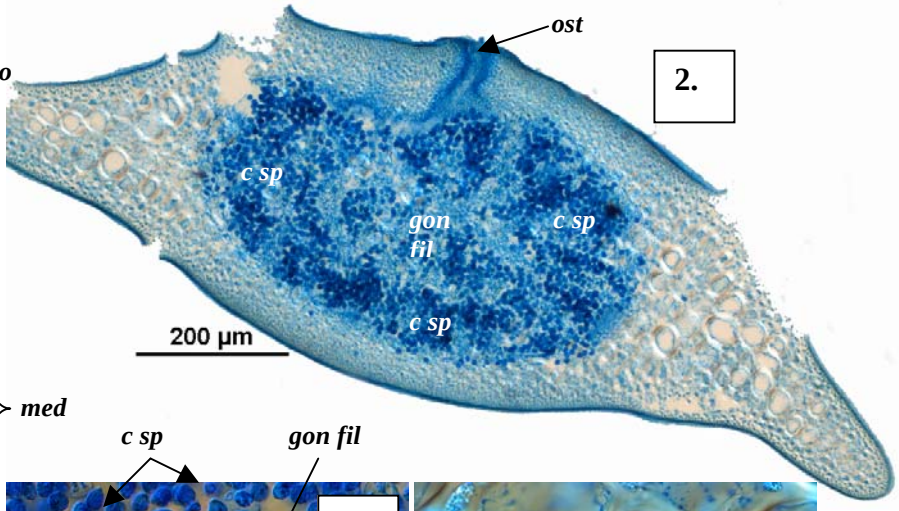
Similar Species Separation of young plants can be difficult; *C. lambertii*, *C. rangiferina* and *C. cervicornis* may prove to be variants of the one species

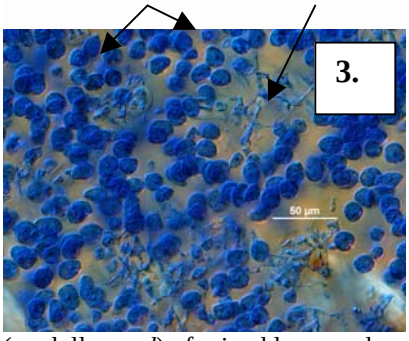
Diagnosis can be difficult

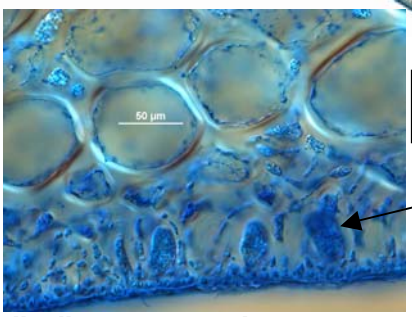
Description in the Benthic Flora Part IIIA, pages 253, 255, 256-257

Details of Anatomy







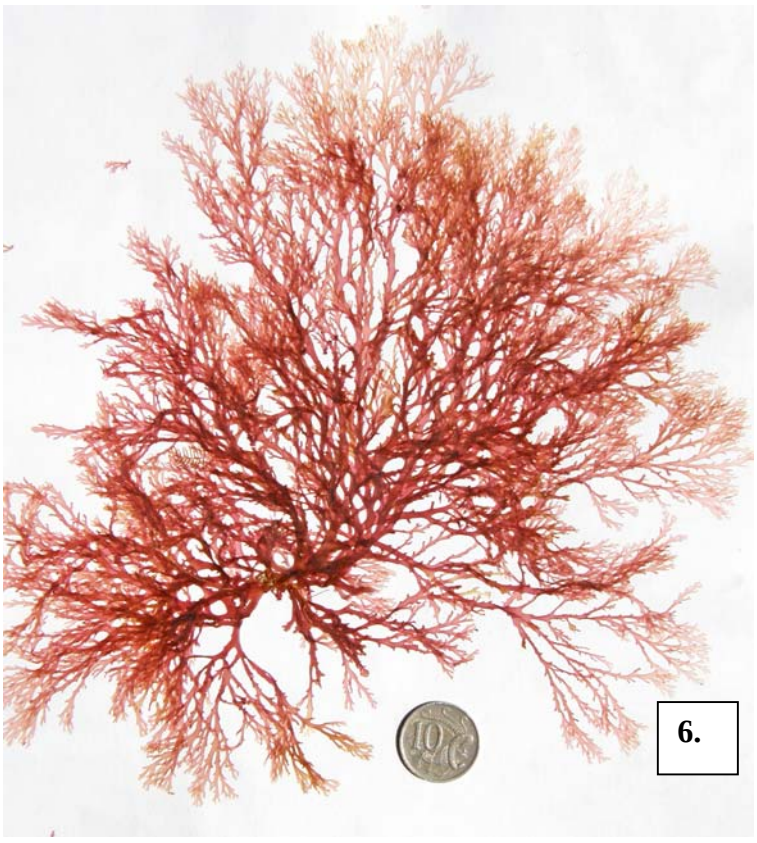


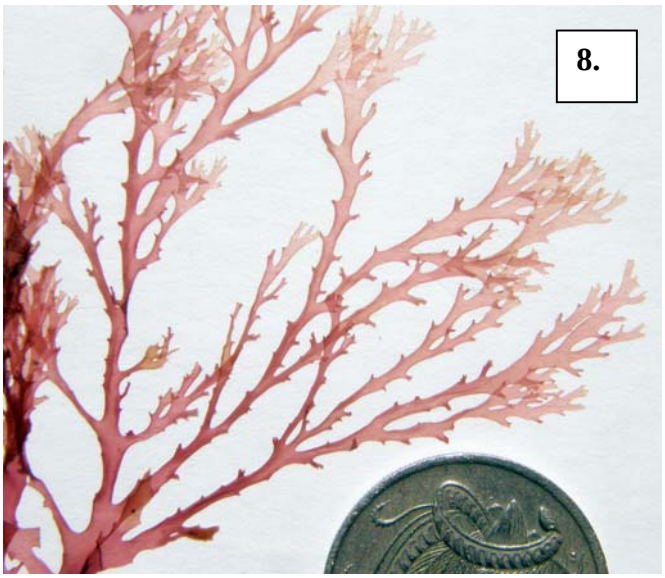
Sections of *Callophyllis lambertii* (A35173) stained blue and viewed microscopically showing:

1. part of a cross section of a blade showing a core (medulla, *med*) of mixed large and small cells, an outermost layer (cortex, *co*) of small cells and darkly stained amoeba-like cell groups (carpogonial branch systems, *cbs*), the early stages of female reproduction) (slide 3403)
2. cross section through a mature female structure (cystocarp) with groups of carposporangia (*c sp*) amongst threads of the gonimoblast (*gon fil*) and an opening (ostiole, *ost*) (slide 3404)
3. detail of part of the gonimoblast (slide 3404)
4. part of a cross section of a sporangial plant with tetrasporangia (*t sp*) developing cross shaped (cruciate) divisions (slide 3402)

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

Prepared March 2009





Callophyllis lambertii (Turner) J Agardh
5, 6. two specimens from 10m deep, Haystack Rock, S Australia (A65419) showing variation in branching patterns
7, 8. detail of branching from a specimen 35m deep, Pearson I., S Australia (A34012)

7. end tufts with flat, relatively broad branches
8. denuded main branches with spiny stubs on edges

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