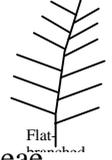


Techniques needed and shape



**MACRO
PLANT**



Classification

Phylum: Rhodophyta; Order: Gigartinales; Family: Kallymeniaceae

*Descriptive name

red prong-tips

Features

1. plants pink to red-brown, 50-250mm tall, flat-branched when young
2. branches are compressed, forked many times over gradually narrowing towards the tips, and appearing antler- or prong-like

Occurrences

West Coast of S Australia to Victoria and around Tasmania

Usual Habitat

in deep water or in tidal channels

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 **delicate threads** running around their margins, and a narrow outer-most (cortex) layer of **small**, egg-shaped cells facing outwards
3. find tiny, ball-shaped mature female structures (cystocarps) usually protruding from the upper slender branches. Cut a cross section to see a mass of carposporangia mixed with a few threads, thick cellular wall (**pericarp**) with an opening (**ostiole**)
4. view the surface of sporangial plants under the microscope to see **scattered** tetrasporangia divided in a cross (cruciate) pattern

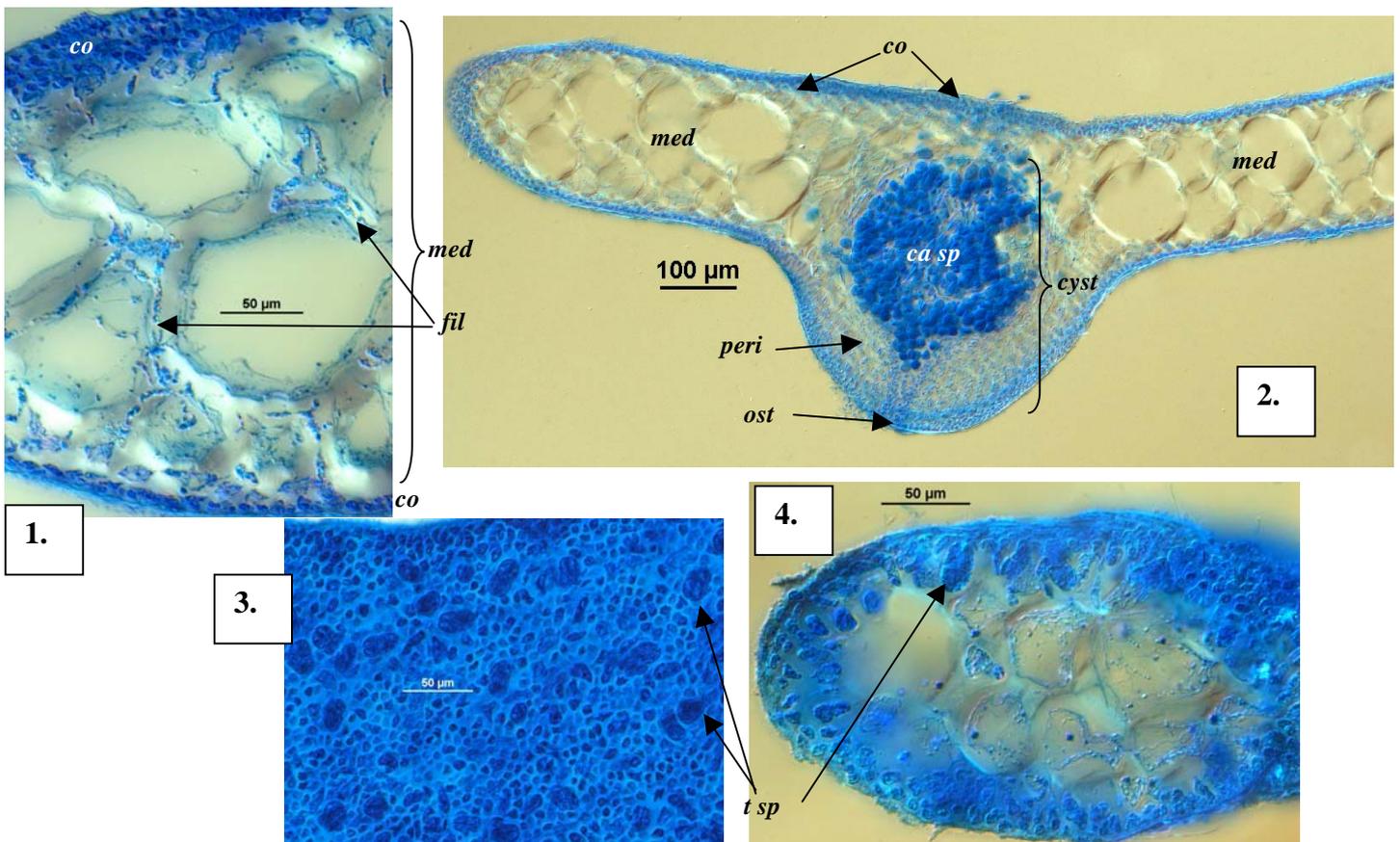


Similar Species

Callophyllis rangifera. *Austrophyllis alcicornis* has thinner, more branched tips; surface cells are more widely separated, appearing as vague rings above larger and deeper cells

Description in the Benthic Flora Part IIIA, pages 248-252

Details of Anatomy

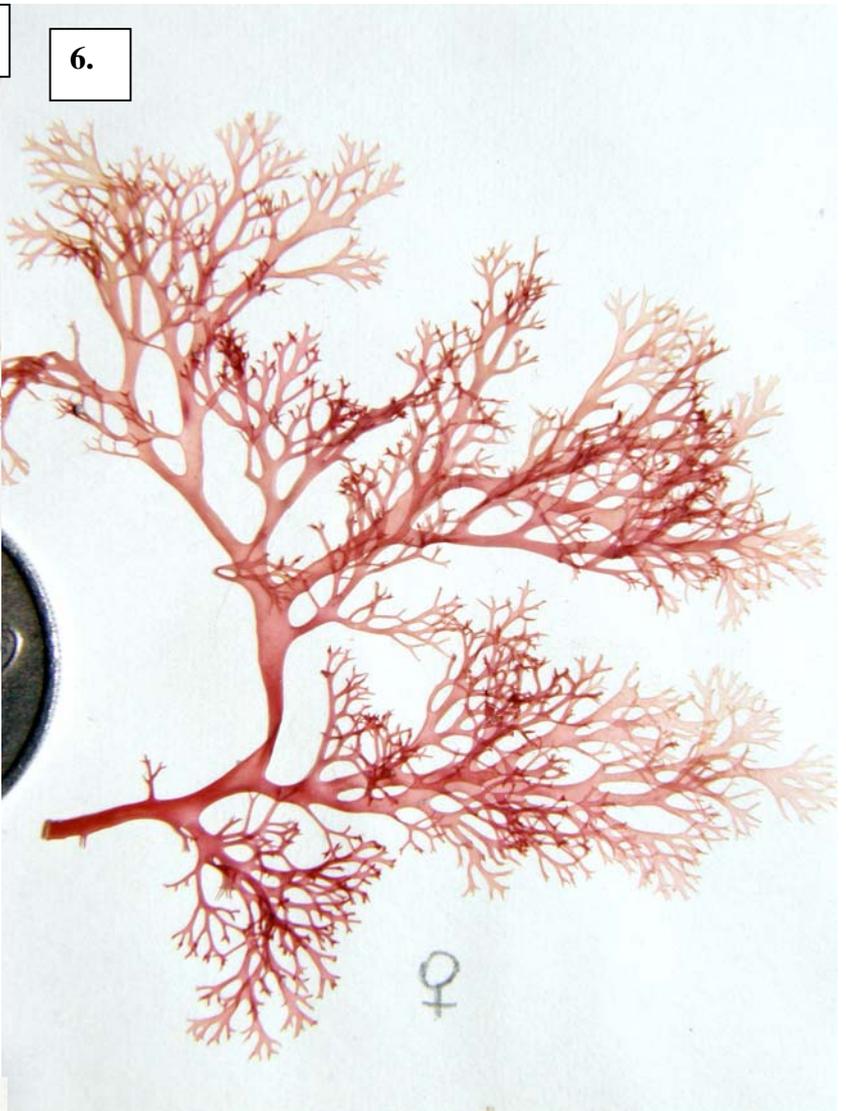


Austrophyllis alcicornis, stained blue and viewed microscopically

1. one side of a cross section showing large cells of the core (medulla, *med*), with faint threads around their margins (filaments, *fil*) and the outer layers (cortex, *co*) of small cells (A35944 slide 3334)
2. a cross section through a blade bearing a cystocarp (*cyst*) showing the mass of carposporangia (*ca sp*), thick wall (pericarp, *peri*) and opening (ostiole, *ost*) (A33935 slide 2882)
3. surface view of scattered tetrasporangia (*t sp*) (A32943 slide 3343)
4. cross section with scattered tetrasporangia divided into a cross (cruciate) pattern (A35229 slide 3344)



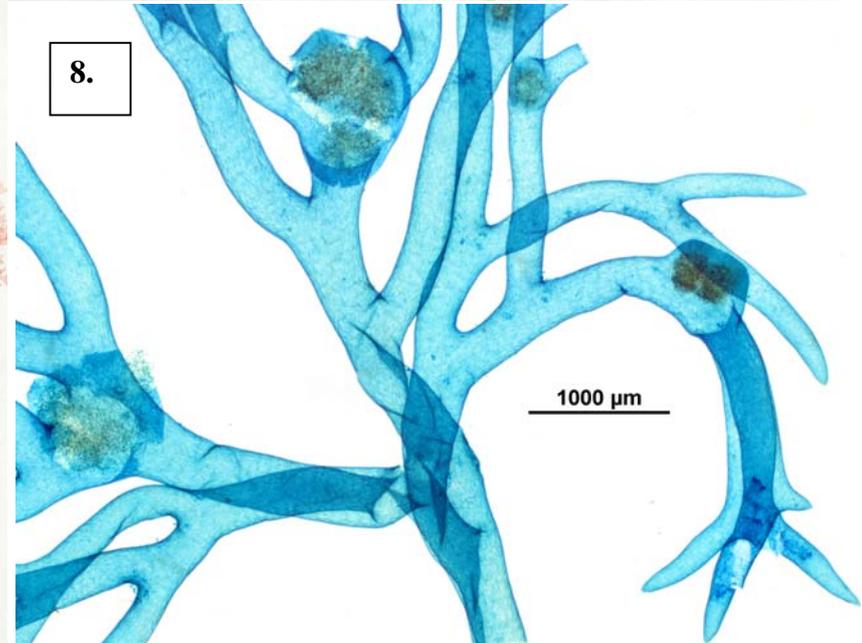
5.



6.



7.



8.

1000 μm

Specimens of *Austrophyllis alcicornis* (J Agardh) Womersley & Norris at different magnifications
 5, 6. from 20-25m deep at Pearson I., West Coast S Australia (A33871)
 7. from 32-38m deep at Egg I., Isles of St Francis, West Coast S Australia (A38056)
 8. a specimen stained blue and viewed microscopically, showing cystocarps near the prong-shaped branch endings (A67934 slide 17139)

* Descriptive names are inventions to aid identification, and are not commonly used
 Prepared March 2009