

Techniques needed and shape



MACRO
PLANT



Classification

Phylum: Rhodophyta; Order: Gigartinales; Family: Cystocloniaceae
dark red threads

*Descriptive name

Features



1. plants are **dark red** to red-brown, 40-120mm tall and **tangled**
2. branches are **thin**, about **0.2mm wide**, forked or branched irregularly, pointed at tips

Occurrences

Usual Habitat

Similar Species

Description in the Benthic Flora Part IIIA, pages 432, 434-436

Special Requirements

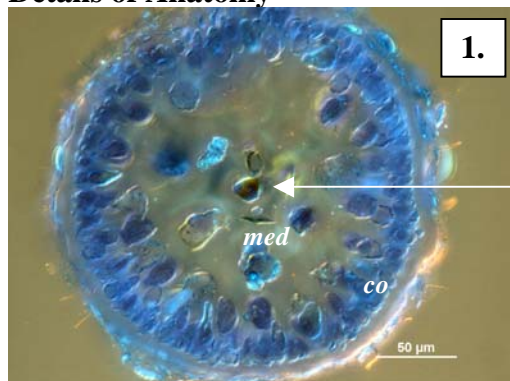


Diagnosis can be difficult

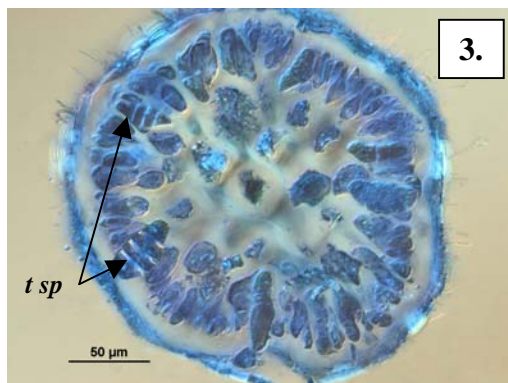
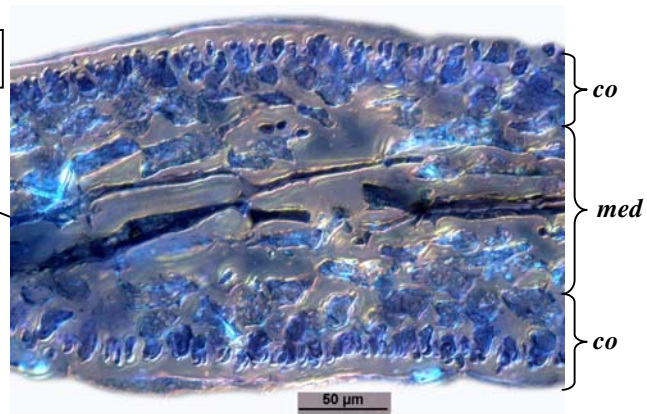


1. view fronds microscopically to see
 - **single** cells at the tips of branches
 - a single central thread running lengthwise, visible only at the tips
 - only vague ring patterns (rosettes) of surface cells
2. cut a lengthwise slice of a branch and view microscopically to find:
 - a core (medulla) of a central thread flanked by loosely arranged angular cells
 - outer layers of a small cells in inconspicuous rings (rosettes) about larger cells
3. find female plants with ball-shaped, protruding swellings (cystocarps), sometimes in groups. Cut a cross section if possible to view:
 - small basal masses of small cells and terminal chains of spores
 - a definite cellular wall (pericarp) but **no** opening
4. if possible, find sporangial plants with **large**, cigar-shaped tetrasporangia scattered near the surface, divided across into four sporangia (**zonate**)

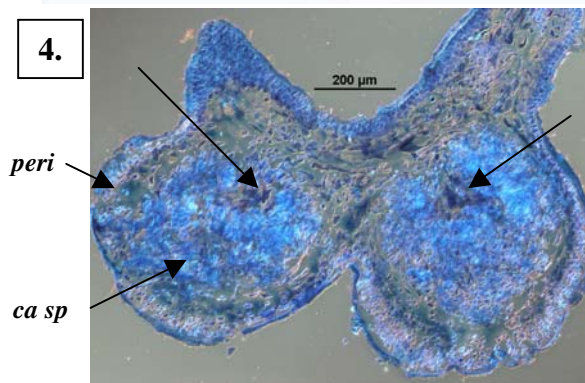
Details of Anatomy



2.

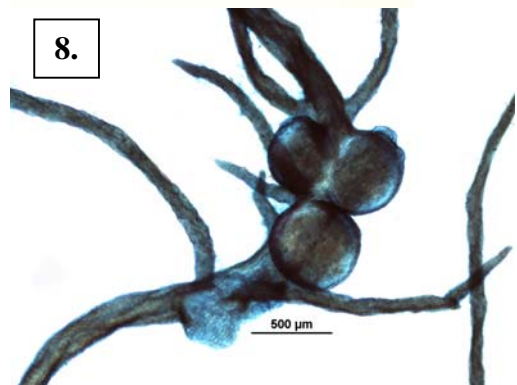
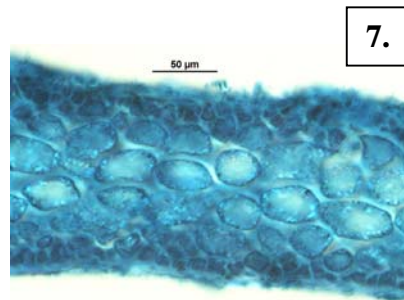


4.



Erythronaema ceramioides stained blue and viewed with interference microscopy, showing

1. a cross section with central thread (*c fil*), surrounding cells of the core (medulla, *med*) and outer (cortex, *co*) of large cells ringed by small ones (A61795 slide 13239)
2. lengthwise section with central filament and medulla cells, and cortical cells (A61795 slide 13240)
3. cross section of a sporangial plant with tetrasporangia (*t sp*) in the outer (cortical) layers (A61795 slide 13239)
4. cross section of a pair of post-fertilisation female structures (cystocarps, *cyst*) with basal cell groups (arrowed), chains of sporangia (carposporangia, *ca sp*) and cellular wall (pericarp, *peri*) (A61855 slide 13323)



- 5, 6. Two specimens of *Erythronaema ceramioides* J Agardh
 5. from a rock sea wall at the base of Witton Bluff, Port Noarlunga, S Australia (A61795)
 6. along a channel 16-23m deep, N of the Quarantine Station, Port Phillip Heads, Victoria (A64518)
 7, 8. specimens stained blue and viewed microscopically
 7. surface view of cells with little apparent cell rings pattern (rosettes) (A61795 slide 13240)
 8. a cluster of ball-shaped cystocarps (A61855 slide 13322)