

Gloiophyllis barkeriae

(Harvey) J Agardh

45.540

Techniques needed and shape



MACRO
PLANT



Classification *Descriptive name

Phylum: Rhodophyta; Order: Gigartinales; Family: Cystocloniaceae
jelly blades

Features



1. plants are red to red-brown, 100-400mm tall, *jelly textured*, flat-branched with *forked* flat blades sometimes edged with many narrower blades
2. lower blades are 10-30mm wide

Occurrences

near Elliston, S Australia to S Victoria

Usual Habitat

a deep water species (25m)

Similar Species

Rhodophyllis and *Craspedocarpus* but the surface rings (rosettes) of cells are not apparent in *Gloiophyllis*, the fronds are wider, thicker and more jelly-like.

Description in the Benthic Flora Part IIIA, pages 427-431

Special Requirements

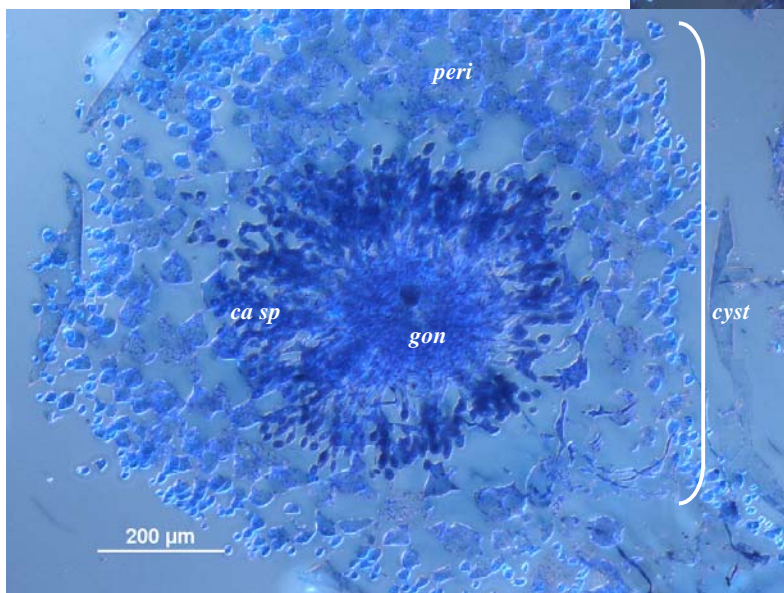
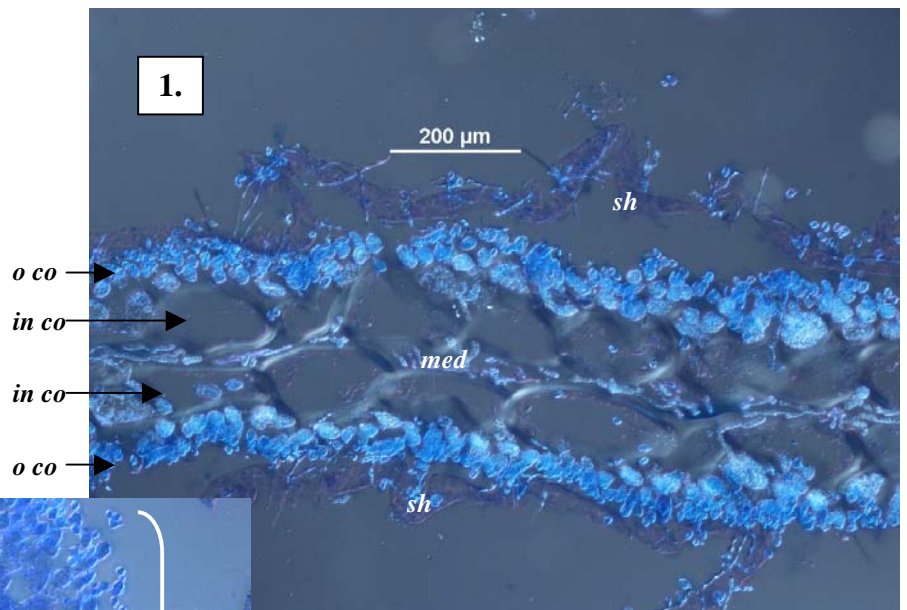


1. focus through the surface microscopically to see larger internal cells with, tiny surface cells radiating *vaguely* from their circumference
2. cut a slice of a blade and view microscopically to find:
 - *obscure, narrow* central strands representing the core or medulla
 - the flanking, outer or cortex layers each of a row of *inner, large* oval cells and *outermost tiny* cells
3. find female plants with small, protruding, spherical swellings *scattered* on the fronds. Cut a cross section if possible to view
 - central masses of cells and *chains* of sporangia spreading outwards
 - a *distinct wall* of cells (pericarp) but *no* opening (ostiole)
4. if possible, find *large*, tetrasporangia scattered near the surface, divided across into four sporangia (*zonate*)

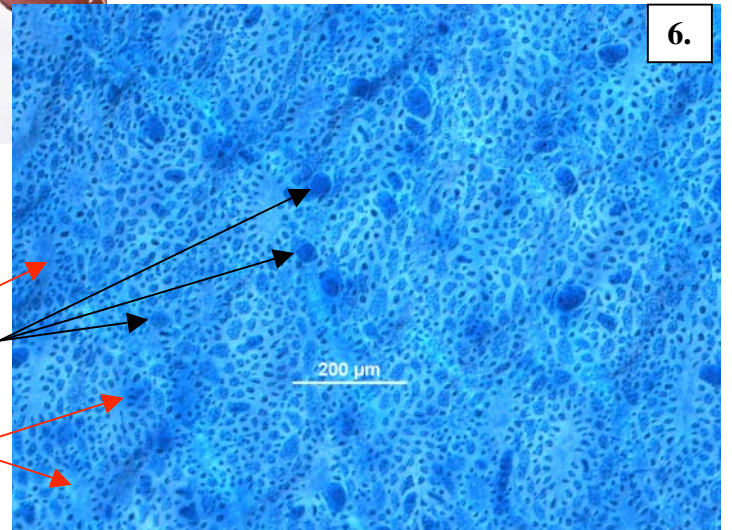
Details of Anatomy

1, 2. Cross sections of *Gloiophyllis barkeriae* stained blue and viewed under interference microscopy to highlight colourless structures:

1. a blade, with obscure core threads (medulla, *med*), inner cortex (*in co*) of large oval cells, outer cortex (*o co*) of tiny cells and sheath of jelly (*sh*, partly detached) (A20071 slide 13135)



2. a mature female structure (cystocarp, *cyst*) with central radiating cell mass (gonimoblast, *gon*), chains of spores (carposporangia, *ca sp*) and cellular wall (pericarp, *peri*) (A61228 slide 13142)



3-5. Drift plants of *Gloiophyllis barkerae* (Harvey) J Agardh from Kangaroo I., S Australia
 3. found at 8m deep, Kangaroo Head (A67016)
 4. at Cape Jaffa (A69049)
 5. detail of the scattered cystocarps on the blades of the Cape Jaffa plant
 6. a specimen stained blue, microscopic surface view, showing scattered tetrasporangia (*t sp*) divided across (zonately) and some rings (rosettes) of surface cells (arrowed) (A60819 slide 13137)

* Descriptive names are inventions to aid identification, and are not commonly used
 "Algae Revealed" R N Baldock, S Australian State Herbarium, October 2008