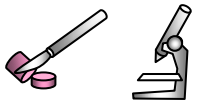
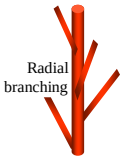
Gigartina sonderi
Edyvane & Womersley

45.380

Techniques needed and shape



MACRO
PLANT



Classification Phylum: Rhodophyta; Family: Gigartinaceae

***Descriptive name** gristle weed

Features plants brown-red, fading to pale red, 50-170mm high, ***gristly***, with upright, ***narrow***, ***cylindrical*** long branches (axes) ***irregularly*** branched on two sides; short side branches arise radially at right angles and are usually straight

Occurrences West Coast of S Australia to Victoria and the E coast of Tasmania

Usual Habitat from low tide level to 10m on rough-water coasts

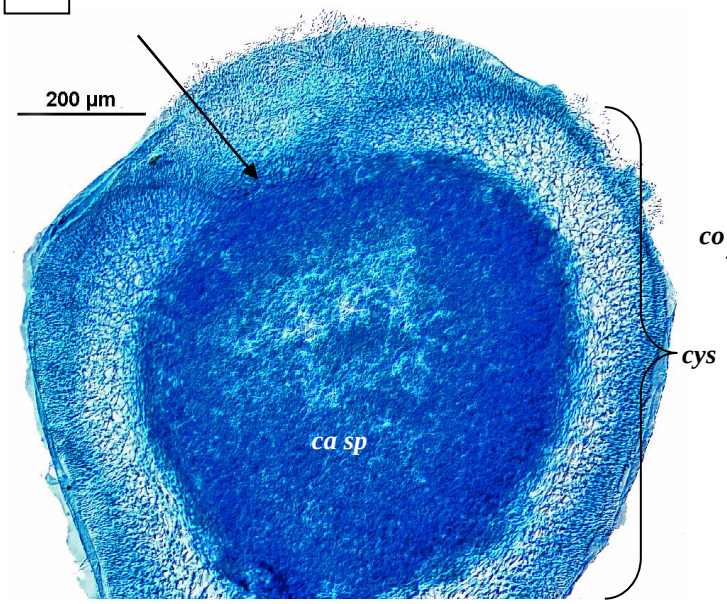
Description in the Benthic Flora Part IIIA, pages 306-308

Special Requirements

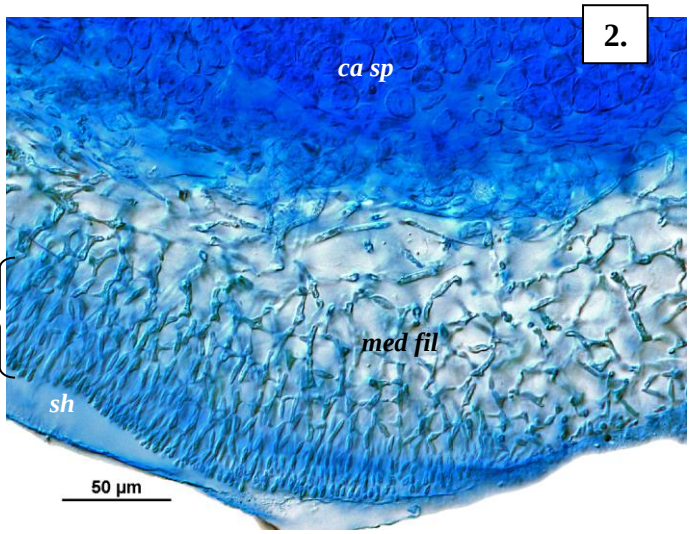
1. cut a cross section of a branch and view microscopically to find
   - a ***wide*** core of threads, the inner ones thicker, connected by short cross threads
   - branched ***chains*** of small cells facing outwards forming the outer (cortex) layers
   - a thick, non-cellular sheath (often broken into segments in stained preparations)
2. find swollen female structures (cystocarps) on short side branches. Cut a cross section to view microscopically the central clusters of spores, envelope of threads and the ***dimple*** in the branch surface where spores escape after cell layers disintegrate
3. in sporangial plants tetrasporangia are massed into incomplete rings (sori) around short side branches. Cut a cross section through a sorus to view microscopically the tetrasporangia, in chains, with cross shaped (cruciate) patterns when mature

Details of Anatomy

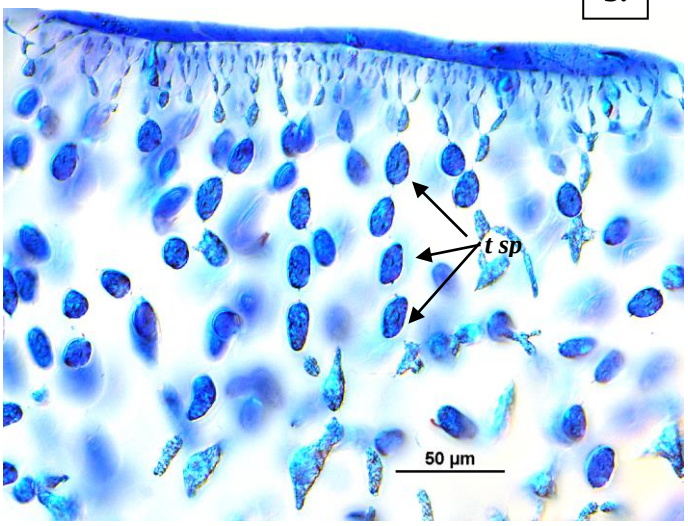
1.



2.



3.



Cross sections of *Gigartina sonderi* stained blue and viewed microscopically

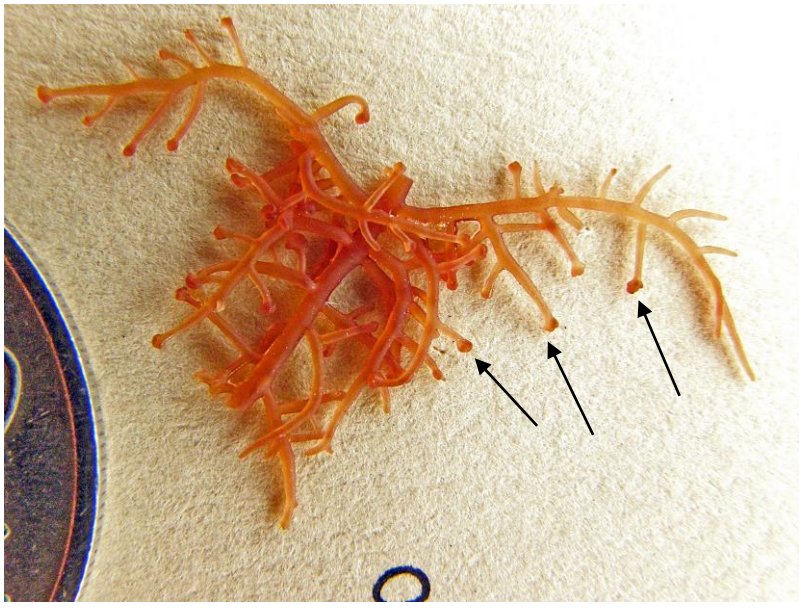
1. cystocarp (***cys***) imbedded in a short branch; central mass of carposporangia (***ca sp***); dimple in the branch surface (arrowed) where spores escape after the cell layers disintegrate (slide 13006)
2. outer part of a branch with imbedded cystocarp: carposporangia (***ca sp***), inter-connected threads, part of the core (medulla threads, ***med fil***), chains of outward-facing small cells of the outer layer (cortex, ***co***) sheath (***sh***) (slide 13006)
3. part of the cortex showing young tetrasporangia (***t sp***, not yet divided into a cross-shaped pattern) forming from the branched chains of cortex threads (slide 13007)

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

"Algae revealed", R N Baldock, State Herbarium S Australia, February 2009; edited May 2014

4.

6.



5.

4, 5. two magnifications of drift plants of *Gigartina sonderi* Edyvane & Womersley (A63574) from Yilki, Victor Harbor, S Australia: branching patterns of main and side branches

6. faded specimen (A10787a) from shallow water W of the main reef at Pennington Bay, Kangaroo I., S Australia: swellings inside branches (arrowed) where cystocarps are developing

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