Craspedocarpus tenuifolius
(Harvey) Min-Thein & Womersley

45.540

MACRO PLANT

Techniques needed and shape

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

***Descriptive name** thin forked fronds

Features

1. plants are red, 100-200mm tall, soft, ***delicate***, thin and ***flat-branched***
2. main fronds are up to ***10mm*** wide, ***irregularly*** branched tapering to ***tree-like***, much-branched pointed ends only 0.2-0.5mm wide

Occurrences Albany, W Australia to near Wilsons Promontory, Victoria and NE Tasmania

Usual Habitat in moderately deep water on rough water coasts, usually on seagrass (*Amphibolis*)

Similar Species *Craspedocarpus ramantaceus*, but that species is robust, less gelatinous in texture, without tree-like ends to fronds, and tightly packed cell rings (rosettes) in surface view

Description in the Benthic Flora Part IIIA, pages 424, 426-427

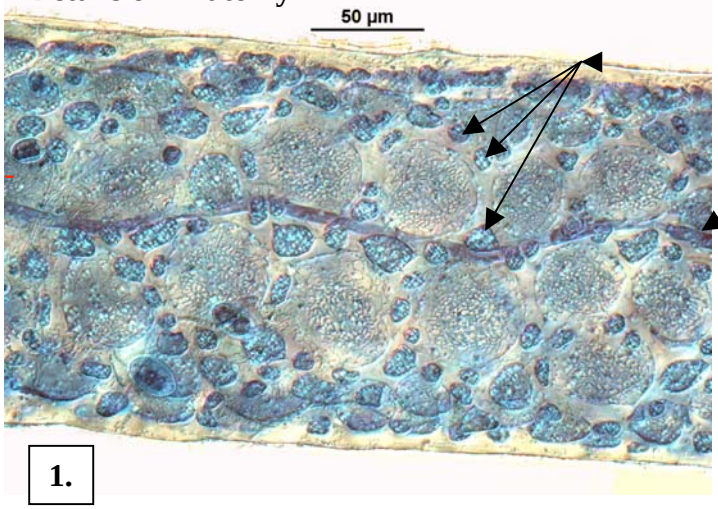
Special Requirements

1. view microscopically the fronds near the plant tips in surface view to see
   - the tree-like fine branching pattern and ***pointed*** tips
   - the central, flat-branched (pinnate) threads ("***veins***") (best seen when stained blue)
   - rings (***rosettes***) of small cells ringing larger ones but ***not crowded together***
2. cut a slice of a main frond and view microscopically to find:
   - the core (medulla) of a single prominent thread loosely wrapped in thin rhizoids
   - obvious outer (cortex) layers of inner ***large spherical*** cells and ***smaller, outer ones*** (forming 2-3 concentric rings or rosettes in surface view), ***no*** bright (gland) cells) but short, extremely fine ***hairs*** jut out from the surface

3. if possible find female plants with spherical swellings ***greatly protruding*** from the ***edges*** of the fronds, cut a section through these and view microscopically to find
   - 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*** in the cortex of fringing proliferations, and divided across into four sporangia (***zonate***)

Details of Anatomy



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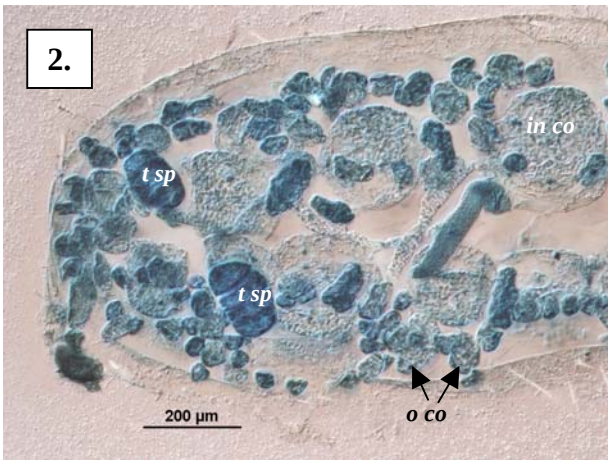
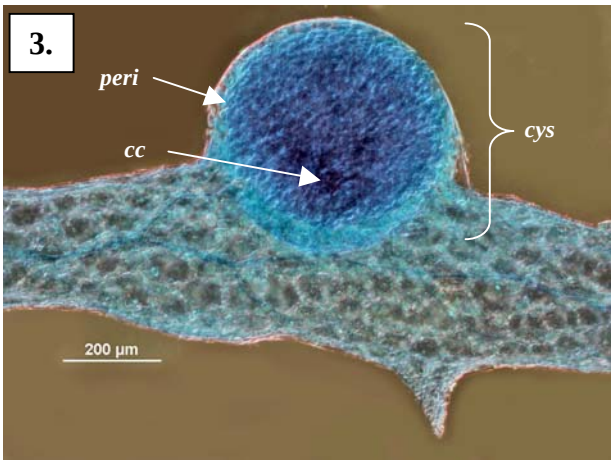
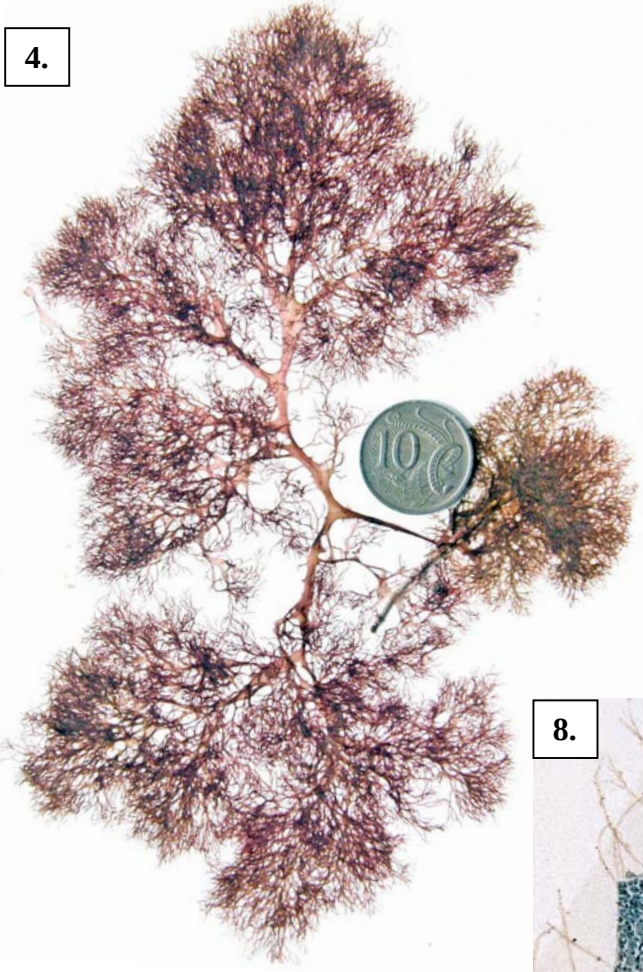


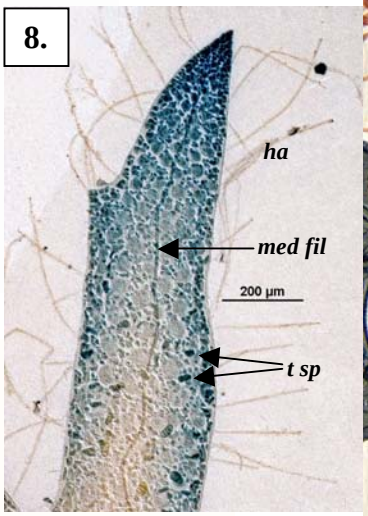


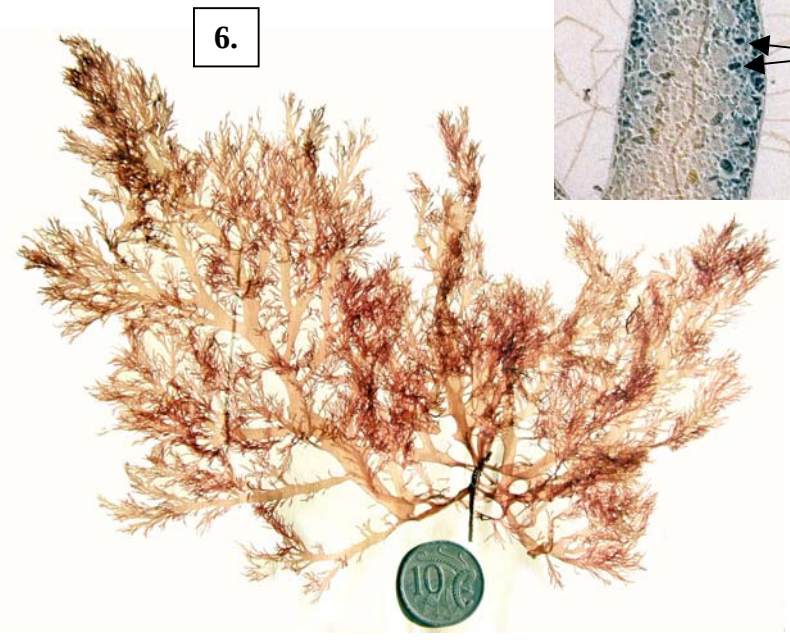
Craspedocarpus tenuifolius stained blue and viewed with interference microscopy showing:

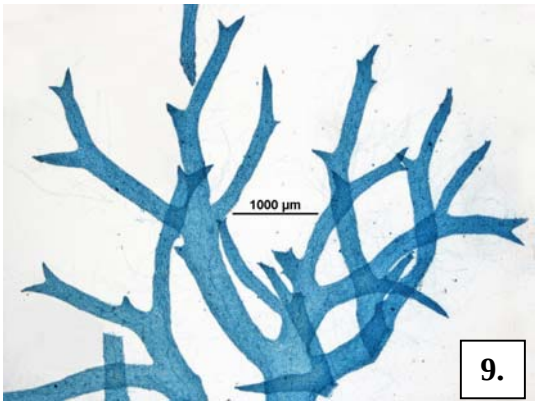
1. a **surface view** of the uncrowded cell rings (rosettes) (arrowed) circling larger, deeper cells and a prominent core thread (medullary filament, *med fil*) (A38331 slide 4834)
2. a **cross section** showing tetrasporangia (*t sp*) large cells of the inner cortex (*in co*) and small outer cortex cells that form the rosettes (*o co*) (A29674 slide 4835)
3. a **surface view** of a female cystocarp (*cys*) with wall of cells (pericarp, *peri*) and large central cell (*cc*) just visible inside (A29674 slide 13196)

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









Views of specimens of *Craspedocarpus tenuifolius* (Harvey) Min-Thein & Womersley

4, 5. general and magnified view, showing the tree-like branching at tips of fronds in specimens from 11m deep on Tiparra Reef S Australia (A38331)

6, 7. a drift specimen, Victor Harbor, S Australia in general and magnified view (A9226b)

8, 9. specimens stained blue and viewed microscopically in surface view

8. a pointed frond tip with core thread (medullary filament, *med fil*) scattered tetrasporangia (*t sp*) and surface hairs (*ha*) (A29674 slide 4835)

9. branching tree-like ends to fronds (A38331 slide 4834)

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