Solieria tenera
(J Agardh) Wynne & Taylor

45.440

Techniques needed and shape

tubular 

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

***Descriptive name** dark wireweed

Features

1. plants are red-brown, relatively soft, 100-200mm tall much branched irregularly with cylindrical branches of varying lengths
2. main branches are about ***1mm*** wide, smaller side ones are up to ***400µm*** wide, ***pinched*** at the base and tapered to a ***point***

Occurrences widely distributed; in southern Australia from Port Phillip, Victoria

Special requirements

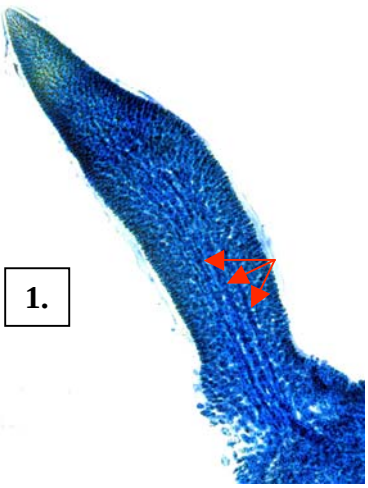
1. view the tips microscopically to locate the several apical cells producing 6-10 ***internal strands*** visible through the outer layers when stained blue
2. cut a cross section and view microscopically to find
   - the ***broad*** central core (medulla) of ***fine threads*** running ***lengthwise*** and ***short*** connecting cross-threads
   - outer layers (cortex) of inner large cells with side connections and outer small cells
2. if possible find the products of fertilisation in female plants (cystocarps),
   - cut a cross section of the swollen parts of the branch and view microscopically
   - cystocarps are found in the medulla with an ***envelope*** of threads
   - there is a ***large*** fusion cell bearing carposporangia
3. if possible, cut a cross section through a sporangial plant to view the scattered, small, cigar-shaped tetrasporangia in the outer (cortex) layers, divided in rows (zonately)

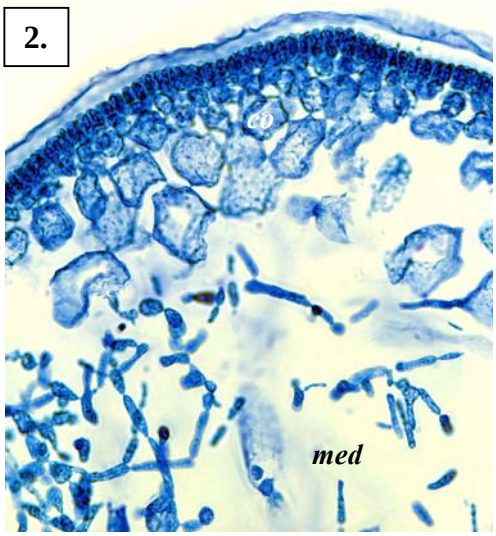
Usual Habitat in shallow water on sand shells and rocks in Australia; probably an introduced species

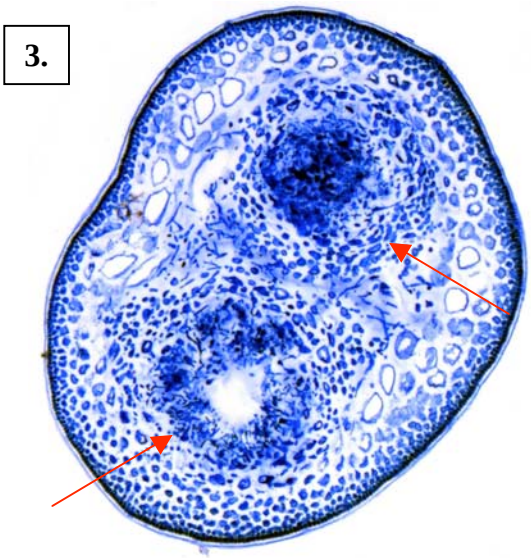
Similar Species *Solieria robusta* and *Sarconema filiforme* have cylindrical branches with several internal threads, but *Solieria tenera* is slenderer with many progressively narrower side branches

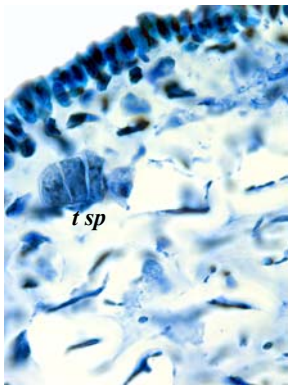
Description in the Benthic Flora Part IIIA, pages 341-344

Details of Anatomy









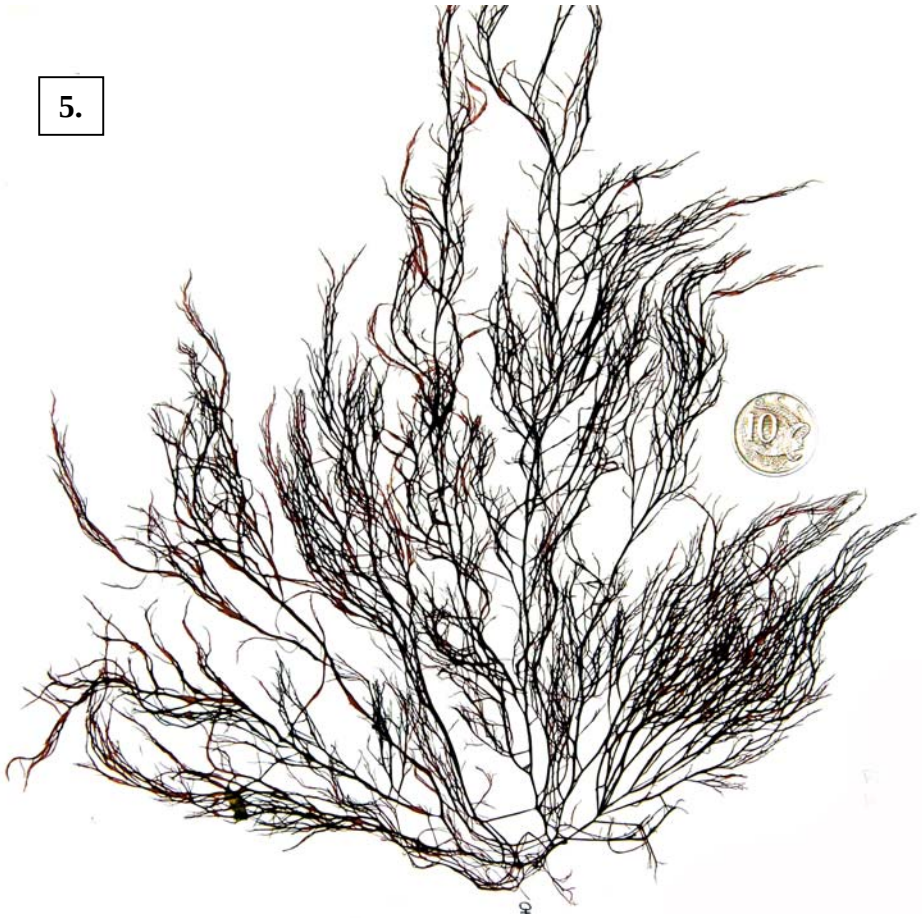
Solieria tenera stained blue and viewed microscopically

1. a pointed branch tip with several core threads visible through surface cells (arrowed) (A42350 slide 12605)
2. part of cross section showing the broad core (medulla, med) of threads and rhizoids connected by short side branches, and outer layer (cortex, co) of inner large cells grading to outermost small cells (A42350 slide 12602)
3. a section through two cystocarps showing envelope threads (arrowed) (A42350 slide 12602)
4. part of a cross section through the cortex of a sporangial plant with one tetrasporangium (*t sp*) (A61731 slide 1303)

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

"Algae Revealed" R N Baldock, S Australian State Herbarium, March 2008

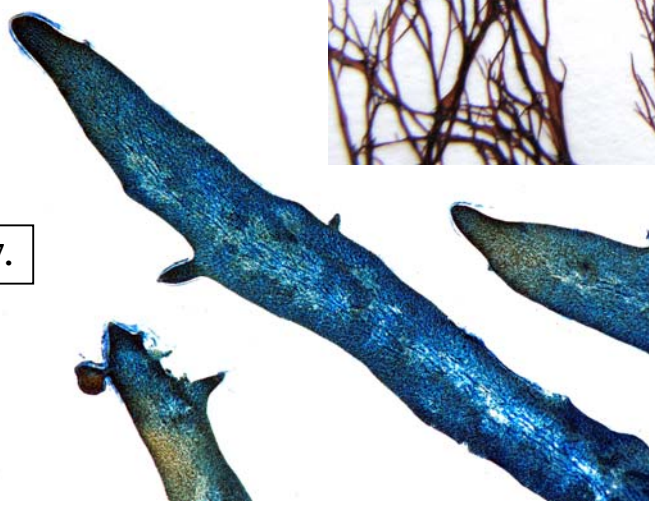
5.



5, 6. two views of a plant of *Solieria tenera* (J Agardh) Wynne & Taylor, (A42350), 3m deep in Port Phillip Bay, Victoria

6.

7.



7. pointed branch tips of *Solieria tenera* stained blue and viewed microscopically (A42350 slide 12605)

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