



Techniques needed and shape

Classification

*Descriptive name

Features

Occurrences


Special requirements



Phylum: Rhodophyta; Order: Gigartinales; Family: Areschougiaceae
red wire weed

1. plants are dark red-brown, 100-300mm tall, with firm, **wiry forked branches** about 1mm wide about every 10-60mm
2. several main branches arise from the base and develop short runners
3. branches are tubular (**cylindrical**), and narrow **throughout**

Indian Ocean tropics and sub-tropics. In Australia a sporadic distribution, from near Perth, W Australia; west coast, S Australia; Sorrento Victoria and northwards from Jervis Bay on the east coast

1. cut a cross section and view microscopically to find
 - the **narrow** central core (medulla) of **compact fine threads** running **lengthwise**
 - **wide** outer layers (cortex) of inner large cells developing thick walls, decreasing to small cells in outer cortex parts
 - **tiny** hair tufts in shallow **pits** at the surface  Diagnosis can be difficult
2. if possible find the products of fertilisation in female plants (cystocarps), producing tiny **swellings** in **groups** along the thin branches. Cut a cross section and view microscopically to see
 - cystocarps are found in the **inner** cortex and have **no envelope** of threads
 - **large, lobed** fusion cells bearing carposporangia in short chains are present

Usual Habitat

Similar Species

Description in the Benthic Flora

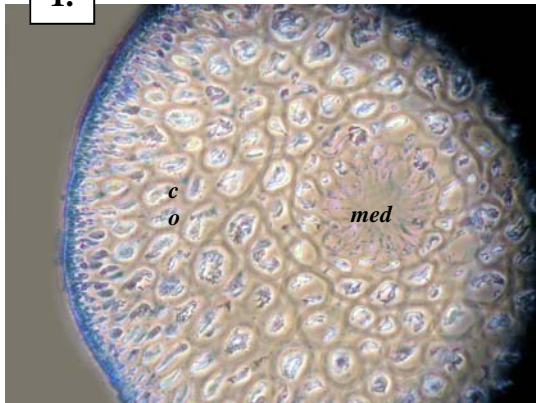
Details of Anatomy

in reef pools and shallow water on rock

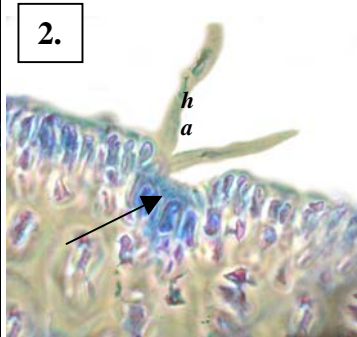
superficially like *Solieria tenera*, but tougher in texture with distinctly broad cortex

Part IIIA, pages 341, 342, 344-345

1.



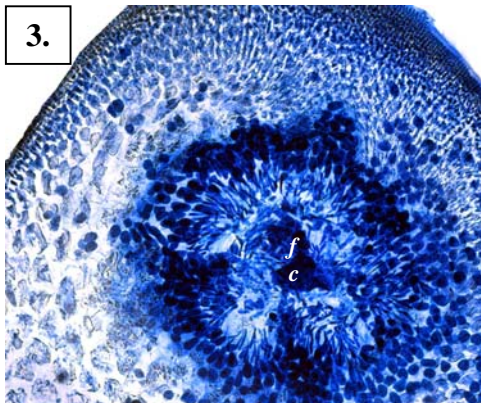
2.



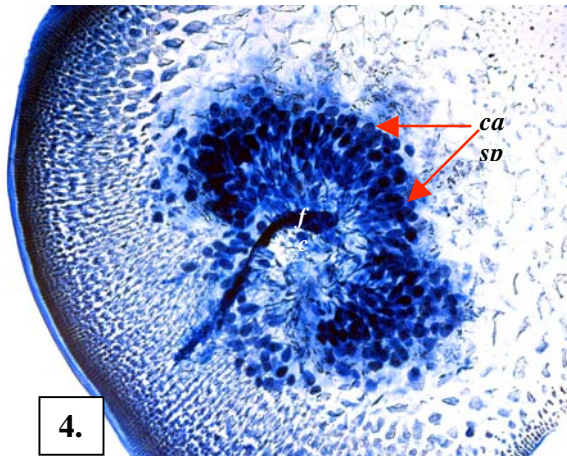
Sarconema filiforme (Sonder) Kylin stained blue and viewed microscopically with phase contrast

1. a cross section highlighting
 - the small core (medulla, *med*) of threads
 - wide outer layer (cortex, *co*) of large, thick walled cells grading to small outermost cells (A59734 slide 12592)
2. cross section through a surface pit (arrowed) with hair tuft (*ha*) (A13695 slide 13024)

3.

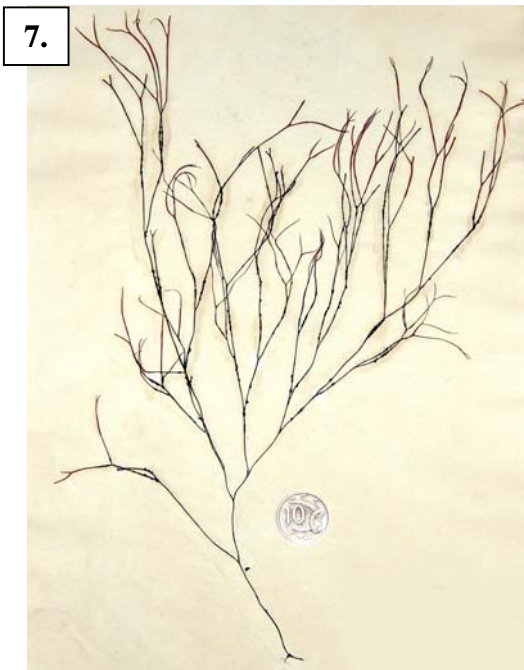


4.



- 3, 4. Two cross sections of cystocarps of *Sarconema filiforme* (A22268 slide 13025) stained blue and viewed with normal microscopy showing
 - the location of cystocarps in the inner cortex
 - lobed fusion cells (*fc*)
 - short chains of carposporangia (*ca sp*)

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



Plants of *Sarconema filiforme* (Sonder) Kylin

5, 6. from reef pools, Elliston, S Australia, (A13695) with many main branches and runners at the base

7, 8. drift female specimens, from Cottesloe, W Australia, (A70301), showing clustered cystocarps forming swellings along the narrow, wiry branches