

Techniques needed and shape



Classification

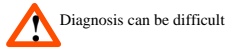
Phylum: Rhodophyta; Order: Gigartinales; Family: Areschougiaceae
red wireweed

***Descriptive name Features**

1. plants are red to dark red, 50-250mm tall, with firm, **narrow, un-jointed** branches only about 1mm wide in the plant middle
2. branches are tubular (**cylindrical**), and gradually taper to **points**
3. basal parts of bushier plants are 2-3mm wide

Occurrences

Special requirements



from Champion Bay, W Australia to the E Victoria and around Tasmania

1. view the tips microscopically to find:
 - **single** apical cells (producing central threads, practically **impossible to see**)
 - a few, obvious, thick-walled, **bright, yellowish threads** often in younger parts
2. cut a cross section and view microscopically to find
 - the **wide** central core (medulla) of **threads** (a few may be thick-walled and yellowish), mixed with **fine** rhizoids (a central thread **not** discernible)
 - **narrower** outer layers (cortex) of inner large cells, decreasing to small cells in outer cortex parts
3. if possible find the products of fertilisation in female plants (cystocarps), producing tiny **swellings** on **one side** near the tips of branches. Cut a cross section and view microscopically to find
 - cystocarps in the **inner** cortex have **no envelope** of threads
 - **large**, fusion cells connecting to **enlarged** medullary threads, bearing **radiating small cells** (gonimoblast) and **large** carposporangia at the tips
4. if possible, cut a cross section of a sporangial plant and view microscopically to find
 - **large** tetrasporangia divided into rows (zonately)
 - **scattered** in the cortex of younger branches

Usual Habitat

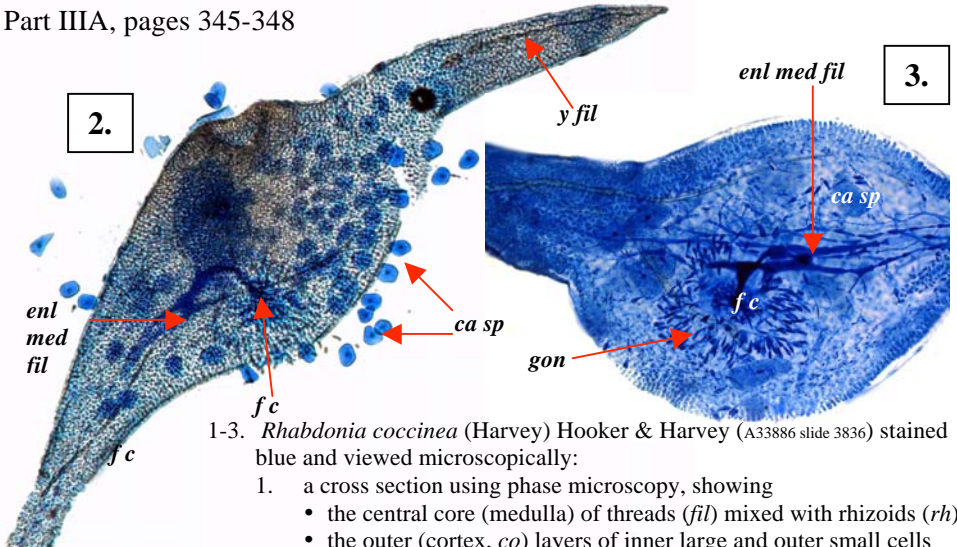
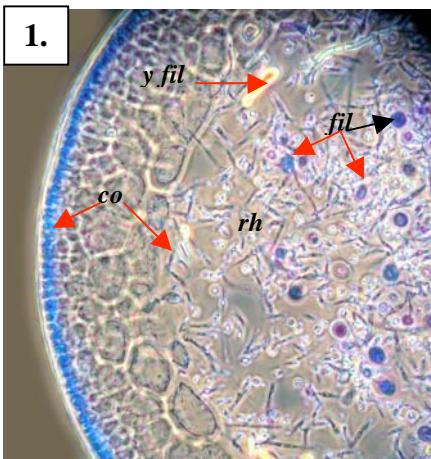
Similar Species

possibly a deep water alga of rough-water or strong tidal movement

superficially like other finely branched members of the Areschougiaceae such as *Areschougia* and *Melanema* but distinguished because of the yellowish threads in younger parts branching pattern and size of medulla relative to cortex

Description in the Benthic Flora Part IIIA, pages 345-348

Details of Anatomy

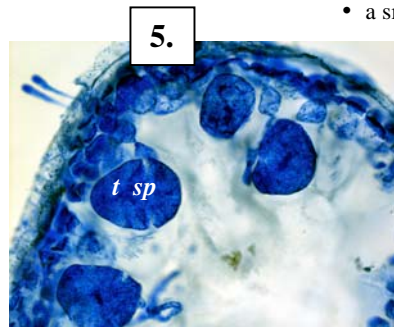
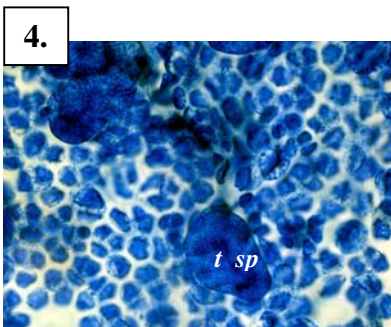


1-3. *Rhabdonia coccinea* (Harvey) Hooker & Harvey (A33886 slide 3836) stained blue and viewed microscopically:

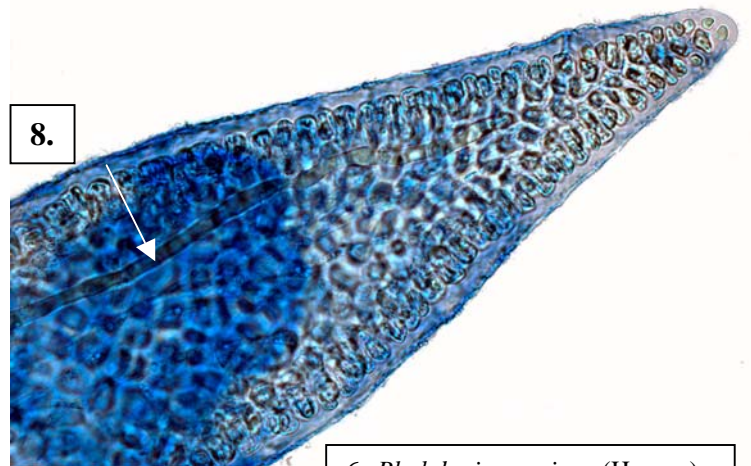
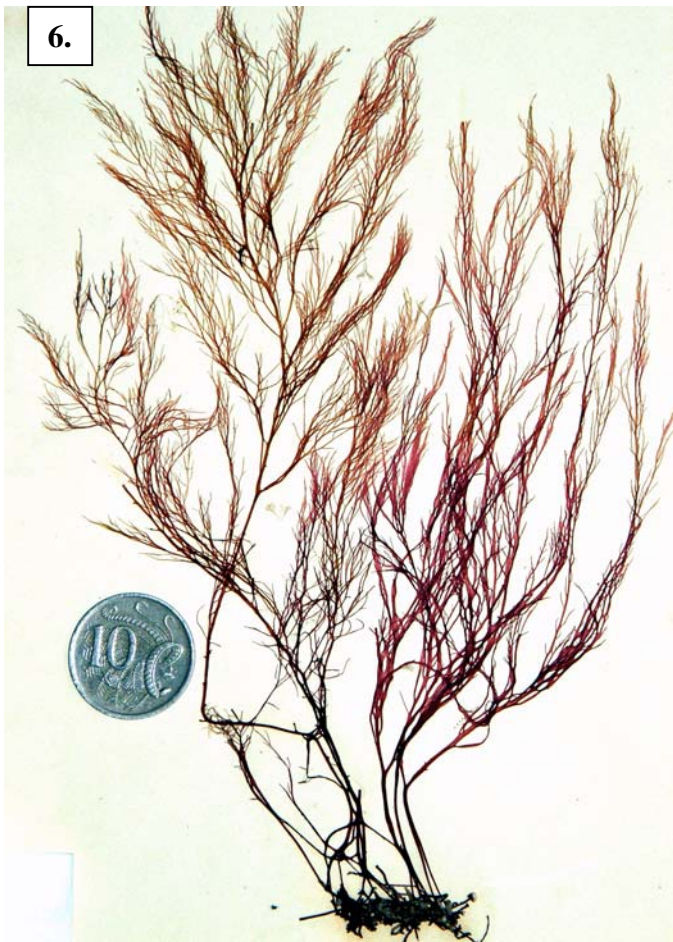
1. a cross section using phase microscopy, showing
 - the central core (medulla) of threads (*fil*) mixed with rhizoids (*rh*)
 - the outer (cortex, *co*) layers of inner large and outer small cells
 - a small section of a bright, yellow thread, *y fil*

2. a branch tip with cystocarp (slightly squashed), showing
 - detached carposporangia (*ca sp*)
 - fusion cell (*fc*) connected to enlarged medullary threads (*enl med fil*)
 - deeply stained yellowish threads (*y fil*)

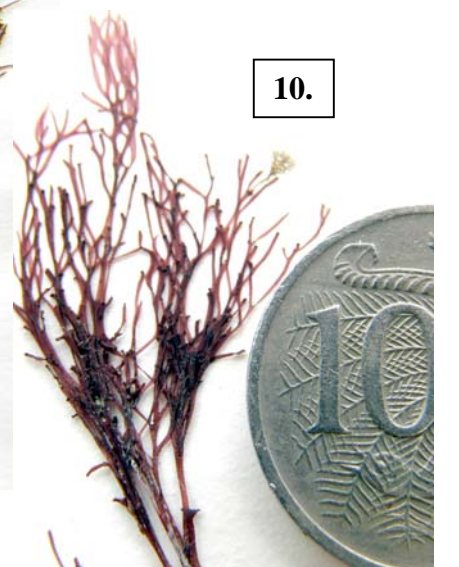
3. cystocarp detail with small gonimoblast cells (*gon*)
- 4, 5. *Rhabdonia coccinea* (A32200 slide 3842): a tetrasporangial plant
 4. focused through the surface showing large tetrasporangia (*t sp*)
 5. a cross section with zonately divided sporangia



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



6. *Rhabdonia coccinea* (Harvey) Hooker & Harvey (A18261); a Harvey specimen from Port Phillip, Victoria
 7. detail of A3422 from Middle River, Kangaroo I., S Australia showing cystocarp swellings in branches (arrowed)
 8. a blue stained microscope view (A33886 slide 3835) showing the acute tip, and a bright yellowish thread (arrowed)



9, 10. two views of A38137: a bushier plant with wider base, from 11m deep, Tiparra Reef, S Australia

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