Rhabdonia clavigera

J Agardh

45.440

Techniques needed and shape


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

***Descriptive name** mini sausages

Features

1. plants are red, 50-150mm tall, branches pinched into sausage-shaped ***segments*** up to 2m long, with ***no clusters*** of bubble-shaped branches basally
2. ***2-4 branches*** arise from the tops of each segment

Occurrences from Point Sinclair, S Australia to Victoria

Special requirements

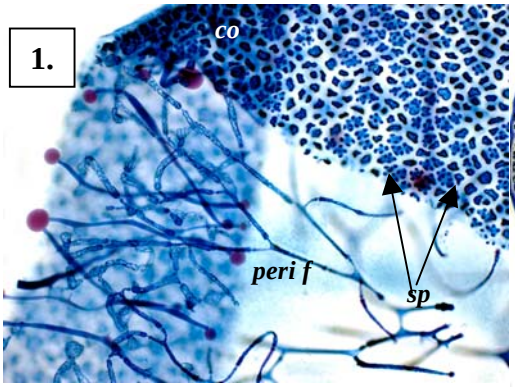
1. view the segments microscopically to find the unusual ***bright threads*** lying just under the surface
2. if possible cut a cross section of a segment and view microscopically to find
   - ***4-6 similar thick-walled threads*** in the wide core (medulla), (one is an ***obscure*** central thread developed from a single apical cell)
   - loose, branched, thin threads spreading ***outwards***, (forming very long, bright end threads just below the surface layer (cortex), although difficult to see in a cross section)
   - a "skin" or cortex layer of equal-sided cells, larger inwardly
3. if possible find the products of fertilisation in female plants (cystocarps), cut a cross section and view microscopically to find
   - ***no*** threads forming a wrapping or involucre as in other species
   - a ***thickening*** of the cortex around the opening (ostiole)
   - a mass of carposporangia in ***short chains***
   - a prominent ***fusion cell***, lying in the core (medulla)
4. if possible, cut a cross section of a sporangial plant to find egg-shaped tetrasporangia divided across (zonately) in the cortex, ***protruding*** into the medulla

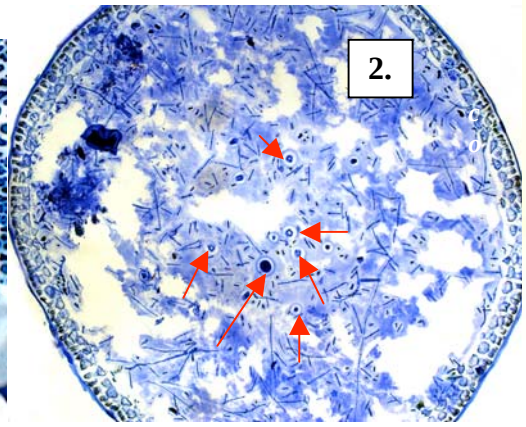
Usual Habitat a deep water species (to 43m)

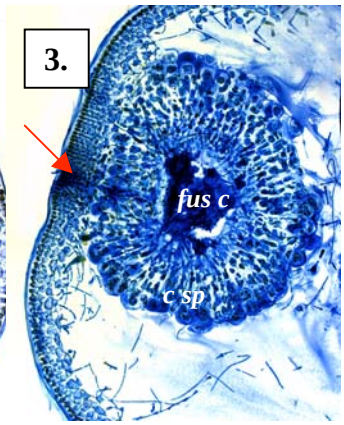
Similar Species *Erythroclonium sonderi*: but its sausage shaped segments are longer, there are no bright threads just under the cortex, and a prominent central thread can be seen in cross section

Description in the Benthic Flora Part IIIA, pages 346, 349-350

Details of Anatomy

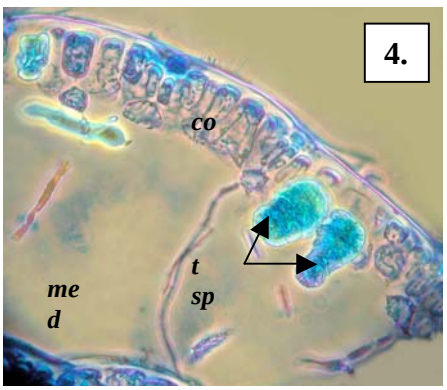




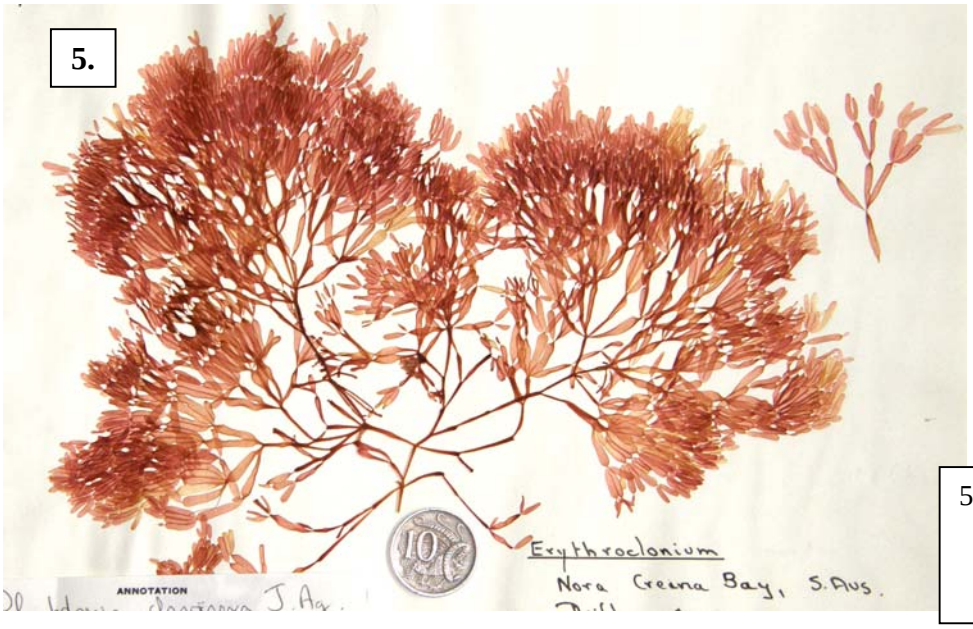


Cross sections of *Rhabdonia clavigera* stained blue and viewed microscopically

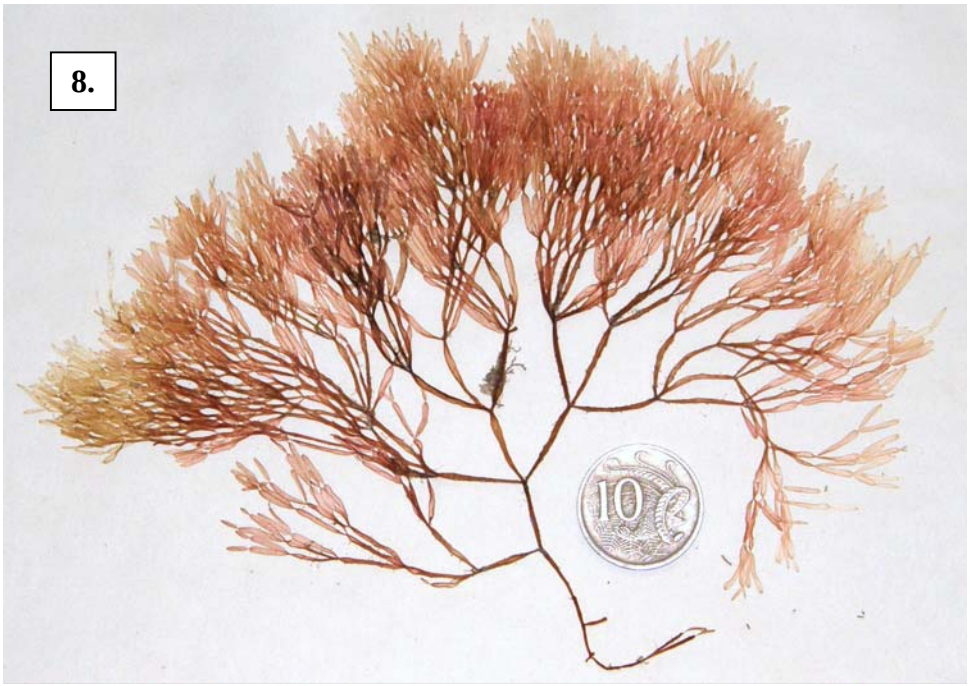
1. a slightly folded section of a young segment of a male plant, showing a surface view of the outer layer (cortex, *co*) with groups of minute spermatangia (*sp*), and scattered, branched, radiating (peri axial) threads (*peri f*) forming the loose core or medulla (A68845 slide 19487)
2. a mature segment with cortex of equal-sided cells, loose medulla of threads and central core of thicker-walled threads (arrowed), one of which is a central thread produced at the plant tip (A42350 slide 12601)
3. a cystocarp with large fusion cell (*fus c*), short chains of carposporangia (*c sp*) , ***no*** envelope of threads, but a thickening of the cortex (arrowed) around the opening (ostiole) (A57594 slide 12607)
4. a sporangial plant with tetrasporangia in the cortex dividing across (zonately) and protruding into the central core (medulla) (A57594 slide 12609)

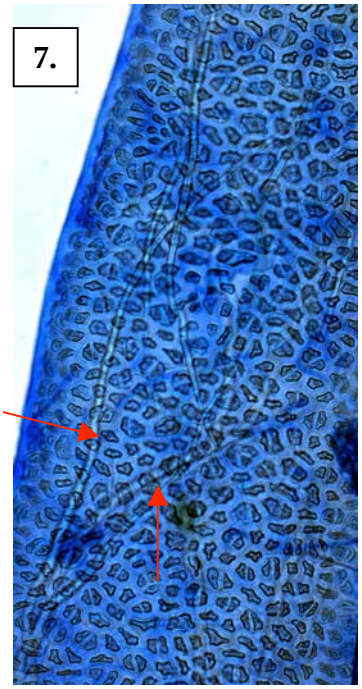


* Descriptive names are inventions to aid identification, and are not commonly used



5, 6. two views of a drift plant of *Rhabdonia clavigera* J Agardh, (A31637) from Nora Creina, S. Australia





7. surface view of a fragment of *Rhabdonia clavigera* stained blue and viewed microscopically showing the bright threads (arrowed) lying just under the cells of the outer or cortex layer (A57594 slide 12611)

8, 9. Two views of *Rhabdonia clavigera* (A33897), 24m deep, 2miles SE of Troubridge I., S Australia

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