

Techniques needed and shape



Classification

Phylum: Rhodophyta; Order: Gigartinales; Family: Areschougiaceae

\*Descriptive name

<sup>§</sup> congested mopweed

Features

1. plants dark red-brown, 100-400mm tall, usually with a *single* main branch (axis) that may be *slightly* compressed 1-2mm wide
2. side branches are *radially arranged*, thin, *cylindrical* and *tapering* often to a point, narrowed at the base

Occurrences

from Hamelin Bay, W Australia to Tasmania, and possibly Lord Howe I., often common

Special requirements



1. cut a cross section and view microscopically to find
  - the single, *large* central thread (*c fil*)
  - the central core (medulla, *med*) of a mix of threads and rhizoids
  - the outer layer (cortex, *co*) of small, equal-sided (parenchymatous) cells
2. if possible find the products of fertilisation in female plants (cystocarps)
  - *swelling* the smaller side branches
  - with a prominent fusion cell
3. sporangial plants have tetrasporangia
  - *large*, cigar-shaped and scattered in the outer (cortex) sporangia
  - divided across (zonately) into 4 sporangia

Usual Habitat

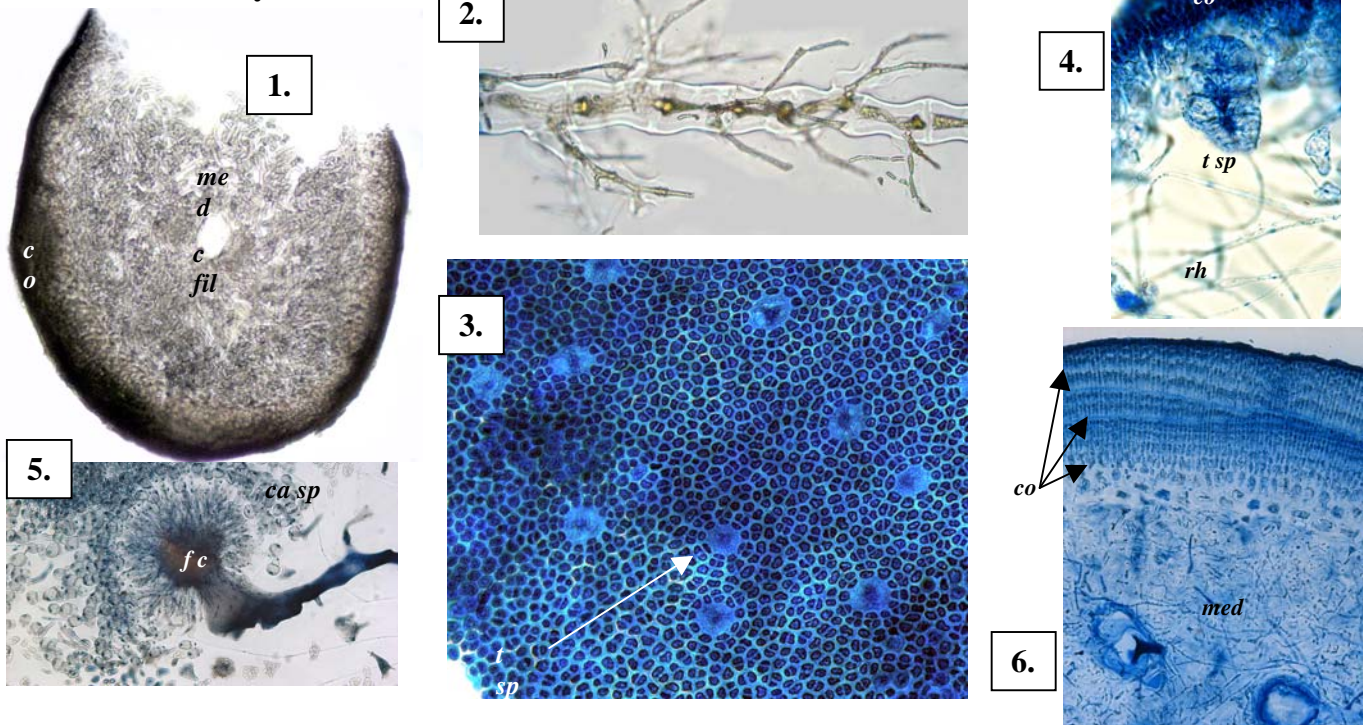
on rough coasts, extending into calmer waters where it is generally slenderer

Similar Species

narrow forms may superficially appear like *Melanema*

Description in the Benthic Flora Part IIIA, pages 356-359

Details of Anatomy



1. a hand-cut cross section of a preserved, bleached specimen of *Areschougia congesta* (A3305) showing the central thread (*c fil*), core (medulla, *med*) of threads and outer layer (cortex, *co*) of small equal-sided (parenchymatous) cells
2. a lengthwise view of the central thread extracted from a branch, showing the *single branches* arising from each thread cell, a diagnostic feature separating *Areschougia* from *Melanema* (A3305)
- 3, 4. *Areschougia congesta* stained blue and viewed microscopically (A35026 slide 3861)
  3. surface view of cells and top view of the large tetrasporangia (*t sp*)
  4. cross section showing a single large tetrasporangium divided into rows (zonate) in the cortex, and fine rhizoids of the medulla (*rh*)
5. a fusion cell (*fc*) and carposporangia (*ca sp*) extracted from a cystocarp of a female plant (A2924 slide 3864)
6. a cross section of an old branch, showing medulla threads and layered cortical cells (*co*) (A34365 slide 3865)

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

<sup>§</sup>Name used by Edgar, G (2008) in Australian Marine Life (2<sup>nd</sup> ed.).

"Algae Revealed" R N Baldock, S Australian State Herbarium, October 2009.

7.



7, 8. *Areschougia congesta* (Turner) J Agardh, (A33305) from Grange, S Australia, on rock, 18m deep  
 9. a preserved, bleached specimen of *Areschougia congesta*, A35026 enlarged to show the irregular *radial* branching pattern and *cylindrical* branches not apparent in pressed specimens, *narrow at the base*.

8.



9.



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