Capreolia implexa
Guiry & Womersley

45.180

Techniques needed and shape

Classification Phylum: Rhodophyta; Order: Gelidiales; Family: Gelidiaceae

***Descriptive name** intertidal mat weed

Features

1. plants brown, dark red, or bleaching to yellow, forming firm, ***gristly mats*** in the intertidal, about 3mm thick
2. runners produce upright, ***compressed*** branches, often in 2 rows

Occurrences New Zealand. In Australia, widespread from Ceduna to Tasmania and NSW

Special requirements

1. if possible, cut across a branch to view microscopically
   - the outer layer (cortex) of small cells
   - the inner (medulla) layer. In some sections a row of 5-7 thick-walled cells can be seen connected by spidery processes. In others a mix of ***threads*** and thick-walled rhizoids (***rhizines***) occurs

2. if possible, find tetrasporangia
   - in rows of ***equal age*** a feature separating this genus from *Gelidium* and *Pterocladia* ⚠ (this may be less obvious in old plants and those growing in calm water)
   - sporangial rows occur on compressed end or side branchlets (*stichidia*)

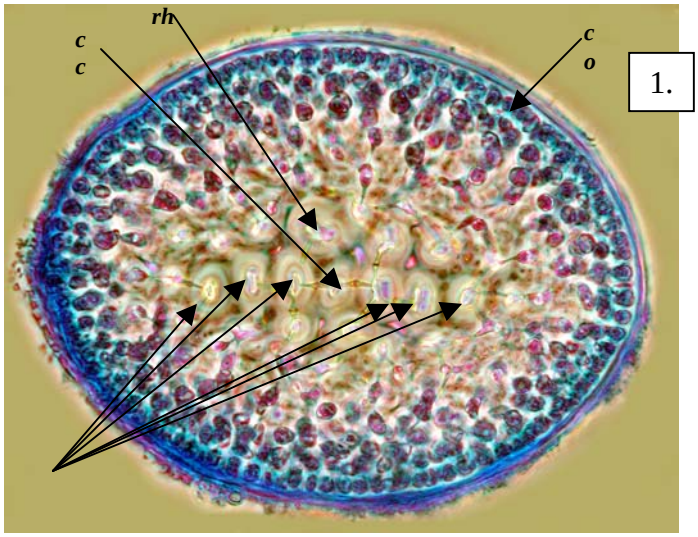
⚠ female structures have only been found in specimens cultured in the laboratory. The genus is unique in that the zygote formed after fertilisation grows directly into a sporangial plant, without an intervening stage, the carposporophyte, being formed

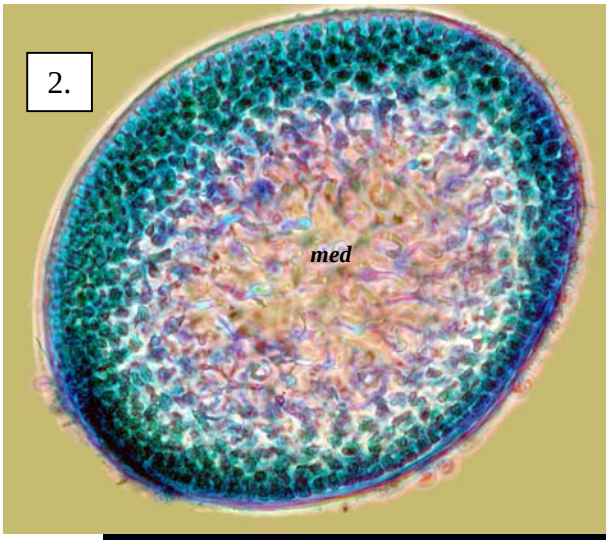
Usual Habitat a common mat-forming, mid-intertidal plant of SE Australia, on rock, bivalves and white worm tubes (*Galeolaria*)

Similar Species *Gelidium pusillum*, but that species forms taller turfs, in intertidal pools, the lower intertidal or shallow water.

Description in the Benthic Flora Part IIIA, pages 126-128

Details of Anatomy





Capreolia implexa stained blue and viewed microscopically

1. a cross section showing the flattened branch with an outer layer (cortex, *co*) of small cells, inner part (medulla) of a central cell (*cc*) and string of thick-walled cells (arrowed) forming a spidery network and thick-walled rhizines (*rh*) (A59205 slide 10984)
2. a cross section with inner section (medulla, *med*) of massed threads (A27730 slide 10663)
3. detail of a branchlet with tetrasporangia (a stichidium) showing curved rows of sporangia of equal age (A50439 slide 10692)

* Descriptive names are inventions to aid identification, and are not commonly used
"Algae Revealed" R N Baldock, S Australian State Herbarium, September 2007

4.

6.

5.

7.

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Specimens of *Capreolia implexa* Guiry & Womersley

4. from the mid-intertidal at Port Stanvac, S Australia (A50439)
5. from the lower intertidal amongst *Hormosira* at Robe, with exposed runners (arrowed) and flat-branched upright branches
6. stained blue and enlarged to show the two-sided flat branching near the tips of upright branches (A50439 slide 10692)
7. under dark field illumination to emphasise the two-sided branching of branchlets bearing tetrasporangia (stichidia) (A50439 slide 1069)
8. a cross section of a stichidium with one tetrasporangium arrowed (showing a division into a cross-shaped or cruciate pattern) (A58694 slide 10654)

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