Griffithsia teges Harvey

45.800.68

Techniques needed and shape



Classification Phylum: Rhodophyta; Order: Ceramiales; Family: Ceramiaceae
Tribe: Griffithsieae

***Descriptive name** intertidal red-thread mat plant

Features

plants about 170mm tall: those on intertidal rocks forming stiff, dense, red ***mats*** bleaching to yellow, those in shallow water more loosely branched; cells up to ***3mm*** long, ***cylindrical*** or barrel-shaped, 2-4 times longer than wide, forming forked threads

Occurrences from SW W Australia to Wilsons Promontory and Bass Strait, Victoria

Usual Habitat widespread, in the mid to lower intertidal, on rock and jetties, to 21m deep

Special requirements

view plants microscopically to find

- in female plants: mature female structures (cystocarps) forming bumps on ***one side*** of upper vegetative cells, each cystocarp containing masses of spores (carposporangia), a minute, basal, disc-shaped cell bearing in a semi-circle ***6-10*** two-celled ***involucral branches***, basal cells of which are small, end cells large, swollen and incurved

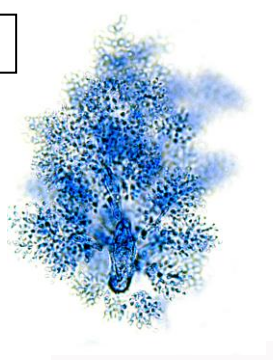
- in male plants: cloud-like masses of spermatangia produced on minute branchlets in the constrictions between a pair of ***inflated*** cells near plant tips; the upper cell of the pair is ball-shaped and, together with the cylindrical thread above it, is often lost, so that spermatangial masses then appear as a terminal cap on the lower, pear-shaped member of the original pair of cells. Sterile involucral cells are ***absent***

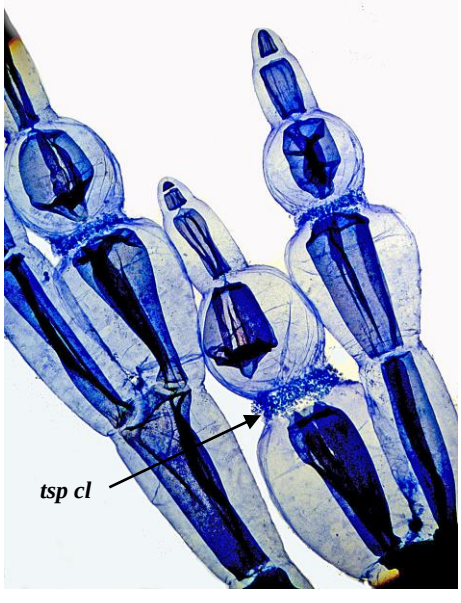
- in sporangial plants: tetrasporangia produced on minute branchlets in masses between pairs of swollen cells in an ***identical*** arrangement to spermatangia. Sterile involucral cells are ***absent***.

Similar Species sterile plants superficially resemble *Anotrichium crinitum*, but that species has narrower threads. The pairs of swollen cells associated with sporangia and spermatangial masses, characteristic of *G. teges*, are ***absent*** in that species

Description in the Benthic Flora Part IIIC, pages 322-326

Details of Anatomy





Griffithsia teges viewed microscopically

1. preserved (bleached) specimen A27821, top-lit: cystocarp with prominent, swollen end cells of two-celled involucral branches (***arrowed***)

2-5. specimens stained blue with somewhat crinkled and contracted contents due to the preparation of the slide

2. male plant (slide 3138): spermatangial branchlets (***arrowed***) (displaced from between swollen cells in the preparation of the slide)
3. highly magnified, minute spermatangial branchlet (slide 3138)
4. detail of a minute sporangial branchlet (slide 3137): elongate cells bearing tetrasporangia; sterile involucral cells ***absent***
5. sporangial plant (slide 3137): young sporangial masses (tetrasporangial clusters, ***tsp cl***) in constrictions between pairs of swollen vegetative cells

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

"Algae revealed", R N Baldock, State Herbarium S Australia, November 2007; revised August 2014

6.

7.

9.

8.

Griffithsia teges Harvey

6. mat-like wads amongst green *Caulerpa* spp in the intertidal, Robe, S Australia
7. sterile plant (A110249) from shallow water at Robe, S Australia, with coarse, parallel branching and a wad of matted threads and rhizoids at the base
8. piece of drift sporangial plant, A66715, from Port MacDonnell, S Australia, with open branching
9. preserved (bleached) specimen (A66715): threads and swollen cells above sporangial masses are being lost, leaving terminal cap-like sporangial clusters (***cap***) behind

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

"Algae revealed", R N Baldock, State Herbarium S Australia, November 2007; revised August 2014