Griffithsia pilalyea Baldock

A SPECIES WITH FEW RECORDS

45.800.68

filament | bead-like | flat-branched

Techniques needed and shape

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

***Descriptive name** red, beaded, mini-fans

Features plants light red, shaped like ***beaded fans***, flat-branched, 17-45mm tall, of swollen cells up to 3mm long, ball-shaped at plant tips, sausage-shaped in middle parts of the plant

Occurrences only known from the SE of S. Australia and possibly S Kangaroo I.

Usual Habitat in shaded intertidal rock pools

Special requirements view plants microscopically to find

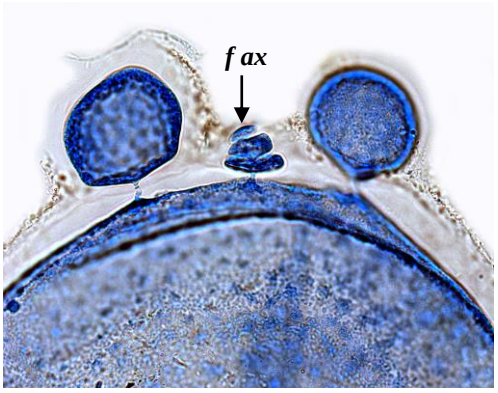
- in female plants: mature female structures (cystocarps), ***central*** in the forks of upper branches, each containing masses of spores (carposporangia), a basal, disc-shaped cell bearing in a semi-circle ***7-10*** two-celled ***involucral branches***, basal cells of which are small, end cells large, finger-like
- in male plants, masses of minute spermatiangia ***clustered*** in the constriction between upper cells
- in spore plants, masses of tetrasporangia on minute branchlets ***clustered*** in the constrictions between upper cells with ***peripheral*** spore branchlets bearing small, inflated, ***incurved*** cells that form a composite wrapping or involucre to the masses

Similar Species *Griffithsia monilis*, but that species has larger, spherical cells, and is branched radially

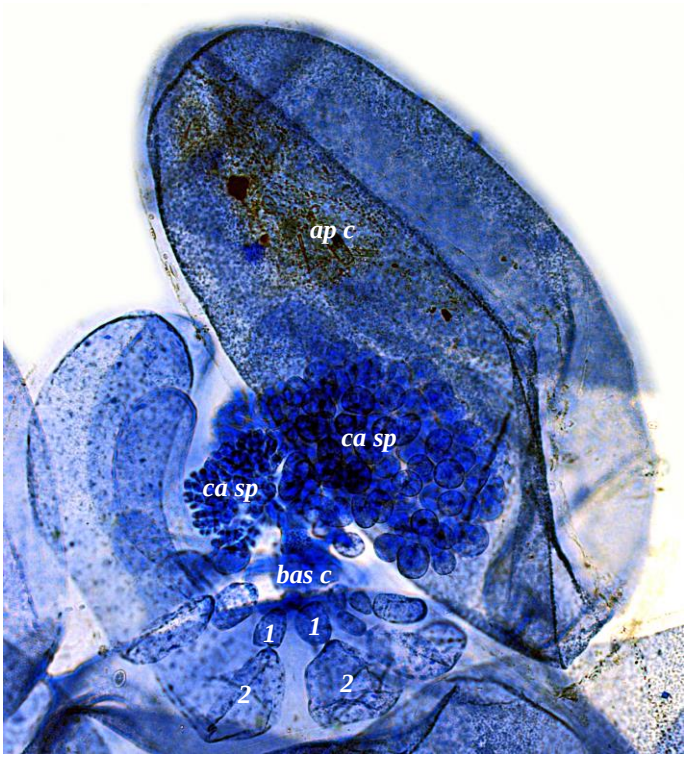
Description in the Benthic Flora Part IIIC, pages 325, 327-328

Details of Anatomy

1.



2.



3.

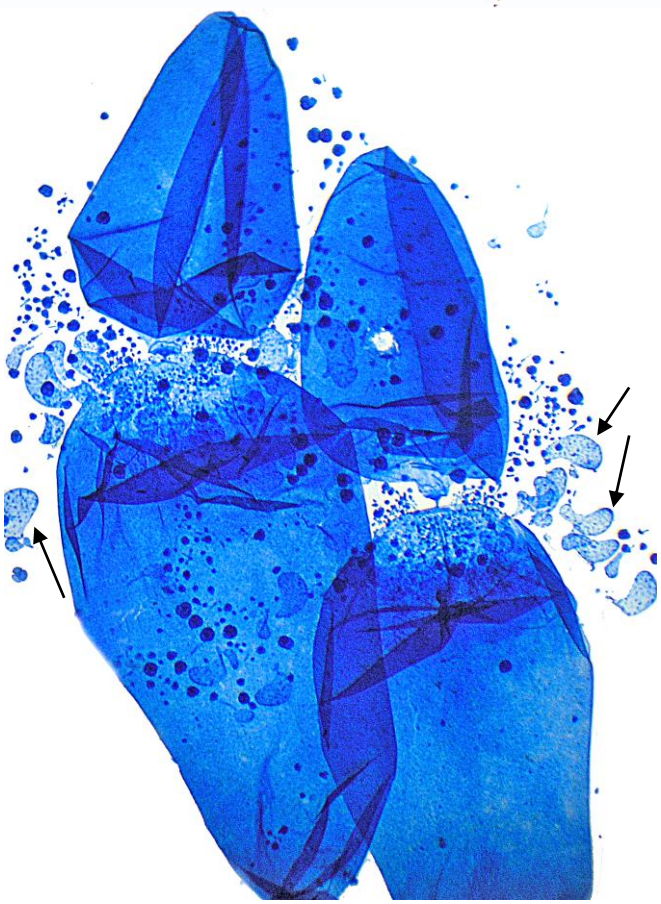
Griffithsia pilalyea stained blue and viewed microscopically (note, large cells collapse, crumple or are squashed during preparation of the slides)

1. plant tip (slide 16621): 3-celled fertile female axis (***f ax***) forming between two globe-shaped apical cells
2. mature female structure (cystocarp) (slide 16621): disc-shaped basal cell (***bas c***), 2-celled involucral branches (two labelled – as small basal cell (***1***), swollen end cell (***2***)), carposporangia (***ca sp***); vegetative apical cell (***ap c***)
3. sporangial plant (slide 18073): minute tetrasporangial clusters in constrictions between vegetative cells (displaced slightly in the slide preparation)

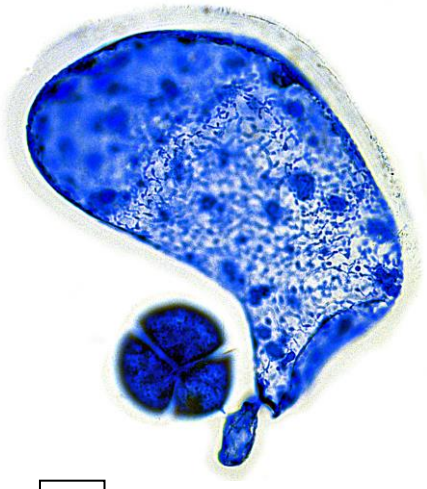
* Descriptive names are inventions to aid identification, and are not commonly used

"Algae revealed", R N Baldock, State Herbarium S Australia, October 2005; additions November 2007; revised July 2014

5.



6.



7.

Griffithsia pilalyea, Baldock

4. from Nora Creina, S. Australia (A39552): regular branching in one flat surface (complanate), basal rhizoids (arrowed)
5. preserved (bleached) female specimen (A39552), backlit: cystocarp (***arrowed***), lying between 2 vegetative cells
6. sporangial plant (slide 16623): clusters of minute tetrasporangial branches mostly displaced from the constrictions between vegetative cells, outer clusters with inflated, curved sterile cells (***arrowed***)
7. single, highly enlarged tetrasporangial branchlet extracted from outer parts of a cluster (slide 16623): inflated sterile cell, single tetrasporangium, single basal stalk cell

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