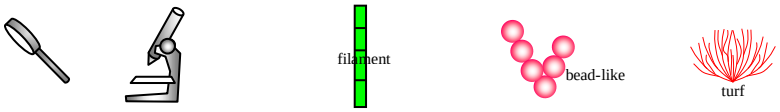
Griffithsia pulvinata
Baldock

45.800.68

Techniques needed and shape



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

***Descriptive name** red cushion beads

Features plants form dense, red, ***cushion-shaped***, crowded masses 10-30mm tall on rocks; cells up to ***4mm long***, ***club-*** to ***sausage-shaped,*** upright***,*** in chains forked once or twice

Occurrences Streaky Bay, S Australia to Port Phillip Heads, Victoria

Usual Habitat in the mid to lower intertidal on rock

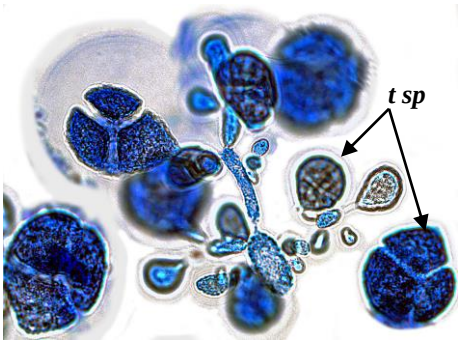
Special requirements view plants microscopically to find

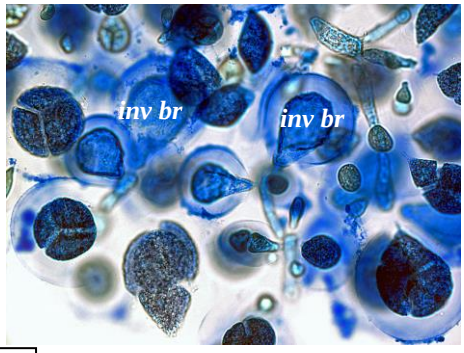
- in female plants: bump-like mature female structures (cystocarps) often in the fork betweeen the two ***uppermost*** vegetative cells and associated with hair-like synchronous branchlets, each cystocarp containing masses of spores (carposporangia), a minute, basal, disc-shaped cell bearing in a semi-circle 9-12 two-celled ***involucral branches***, basal cells of which are small, end cells swollen and sometimes apically notched
- in male plants: cloud-like masses of spermatangia in the constrictions between cells near plant tips
- in sporangial plants: tetrasporangia produced in masses of minute branchlets ***in the constrictions*** between cells near plant tips, peripheral branchlets also producing ***sterile*** (involucral) cells ***equal in size*** to the tetrasporangia

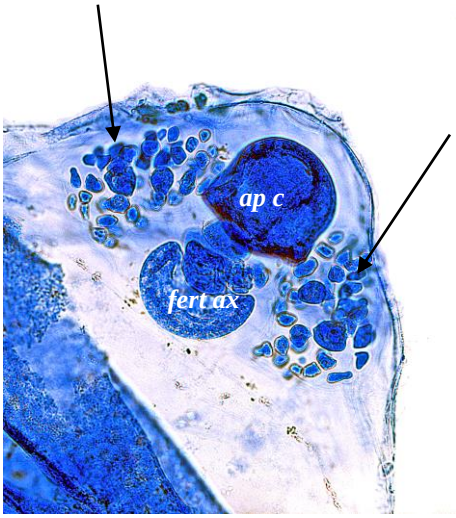
Similar Species *Griffithsia monilis* with similar sized vegetative cells, but in that species cells are more spherical, branches more open and spreading, involucral cells of outer tetrasporangial branchlets much larger than the sporangia and plants do not form cushion-shaped masses

Description in the Benthic Flora Part IIIC, pages 324-326

Details of Anatomy



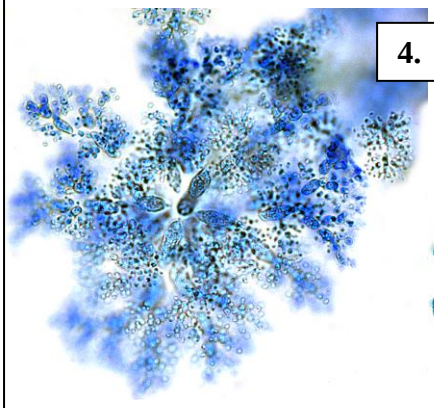




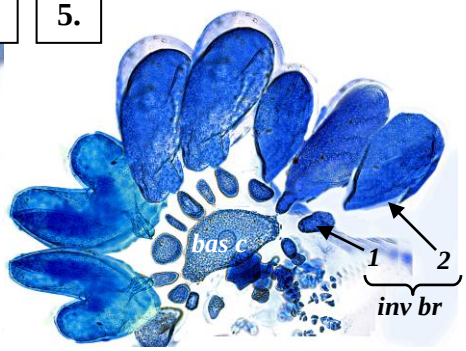
1. **2.** **3.**

Griffithsia pulvinata stained blue and viewed microscopically

1. branchlets from inner parts of tetrasporangial masses (tetrasporangia, ***t sp***) (slide 3119)
2. branchlets from peripheral parts of tetrasporangial masses: sterile cells (***inv br***) equal in size to sporangia (slide 3120)
3. branch tip: fertile female branch (fertile axis, ***fert ax***), hair-like, synchronous branches (***arrowed***), vegetative apical cell (***ap c***) (slide 3118)
4. highly magnified, minute spermatangial branchlet extracted from the cloud-like masses in constrictions between vegetative cells (slide 3120)
5. detached cystocarp viewed from above: disc-shaped cell (basal cell, ***bas c***) producing a semi-circle of involucral branches(***inv br***) consisting of a small basal (***1***) and swollen apical cell (***2***), two LHS ones of which are notched) (slide 3118)

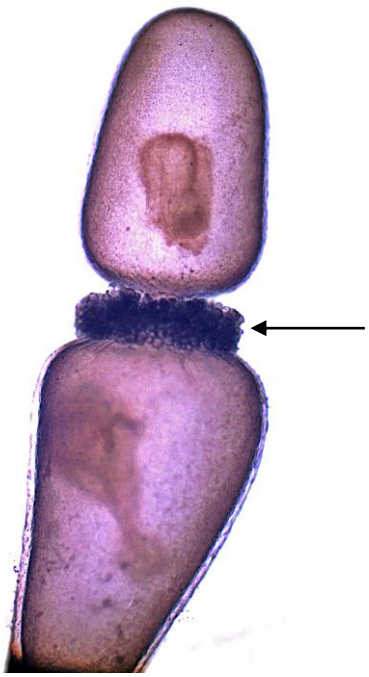


4. **5.**



* 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



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6. from Horseshoe Bay, Port Elliott, S Australia, A26365a, in the upper intertidal, on granite

7-9. preserved, bleached specimens A26365, top-lit and colourised:

7. 8. cystocarps, showing the characteristic position in a fork at the end of a branch; swollen end cells of the involucral branches (***arrowed***) are prominent

9. sporangial plant: masses of tetrasporangia in a ring in the constriction between the apical and next cell of a branch

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