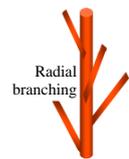


Calliblepharis planicaulis
(Harvey) Kylin

45.540



MACRO
PLANT



Techniques needed and shape

Classification

Phylum: Rhodophyta; Order: Gigartinales; Family: Cystocloniaceae
flat red tufts

*Descriptive name

Features



- plants are red to red-brown, 100-300mm tall, with many fine radially arranged branches arising from the edges of flattened main branches
- some branches end in hooked, thicker tendrils, others end in points near Perth, W Australia to Victoria and N Tasmania

Occurrences

Usual Habitat

Similar Species

normally on both species of *Amphibolis* although drift species are often detached

Hypnea ramentacea that also has hooked tendrils, but that species has only cylindrical branches and no surface cell rings (rosettes)

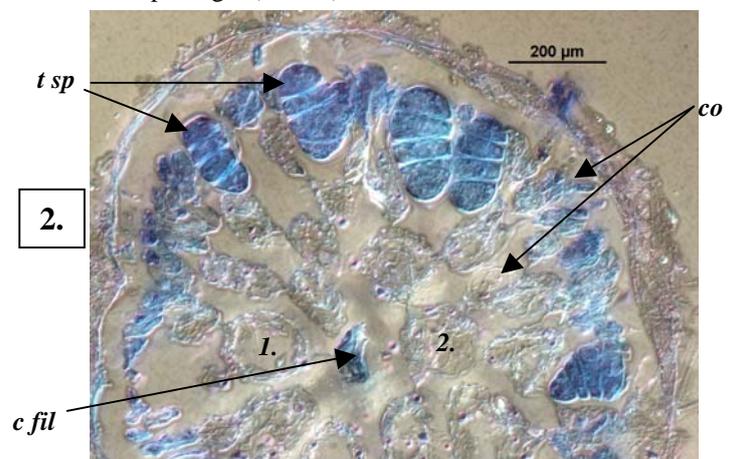
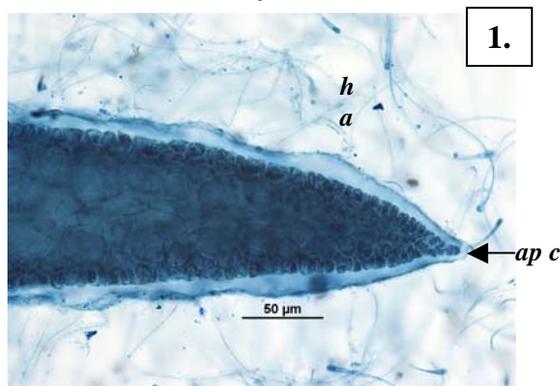
Description in the Benthic Flora Part IIIA, pages 410-413

Special Requirements



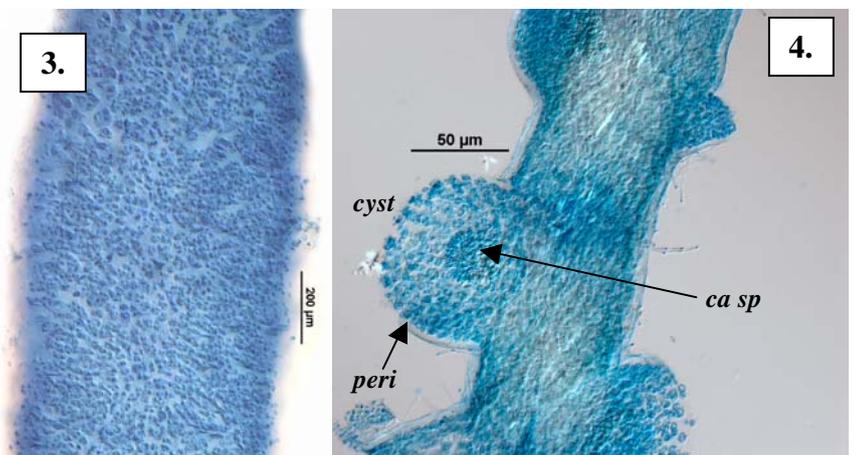
- view microscopically the surface view of branches near the plant tips to see
 - pointed** tips ending in a **single** cell and often numerous fine surface **hairs**
 - a **single** central thread running lengthwise and obvious in older branches
 - vague rings (**rosettes**) of small cells around larger ones but **not crowded together**
- cut a slice of a frond and view microscopically to find:
 - the core (medulla) of a single, prominent thread with **no** wrapping of rhizoids but 2 side (periaxial) cells
 - periaxial cells produce chains of branching 2-3 times of outer (cortex) cells becoming smaller towards the surface
- if possible find female plants with spherical swellings **greatly protruding** from the **edges** of the branches, with
 - central masses of cells and **chains** of sporangia spreading outwards
 - a **distinct wall** of cells (pericarp) but **no** opening (ostiole)
- if possible, find **large**, tetrasporangia scattered or in groups often **on one side** of the cortex, and divided across into four sporangia (**zonate**)

Details of Anatomy



Calliblepharis planicaulis stained blue and viewed microscopically.

- a pointed tip with single apical cell (*ap c*) and numerous hairs (*ha*) (A42678 slide 13317)
- a cross section of a cylindrical side branch with central thread (*c fil*) 2 periaxial cells (1, 2) cortical cells (*co*) and tetrasporangia (*t sp*) clustered on one side (A41383 slide 4845)
- surface view of numerous minute spermatangia of a male plant (A41383 slide 5215)
- surface view of a female plant showing protruding cystocarps (*cyst*) with central chains of spores (*c sp*) and cellular wall (pericarp, *peri*) without an opening (A41383 slide 4842)





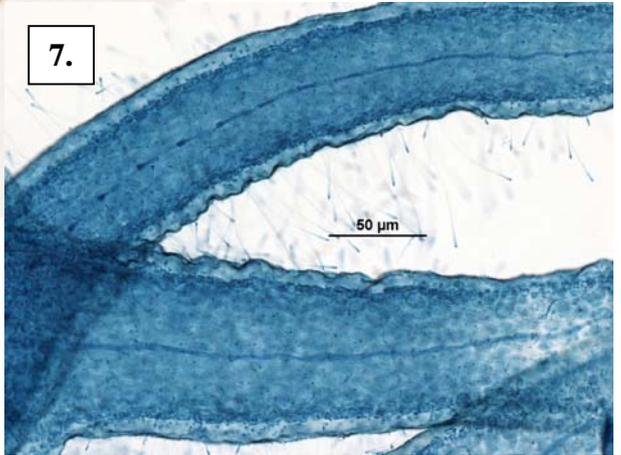
5

Two views of *Calliblepharis planicaulis* (Harvey) Kylin from Kangaroo I., S Australia showing:

- the flat-branched main branches and finer cylindrical side branches (a drift plant from Pennington Bay (A41383)
- detail of hooked tendrils of a plant from 0-5m deep on *Cystophora* (arrowed) on a jetty at Vivonne Bay, (A41406)

Calliblepharis planicaulis (A41383 slide 5216) stained blue and viewed microscopically showing:

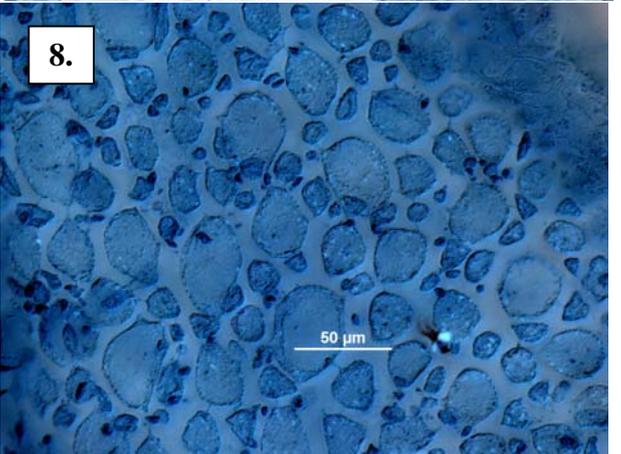
- the central thread in older branches
- a surface view of the well-separated rings (rosettes) of small outer cortex cells surrounding the larger deeper ones



7.



6.



8.

* Descriptive names are inventions to aid identification, and are not commonly used
 "Algae Revealed" R N Baldock, S Australian State Herbarium, October 2008