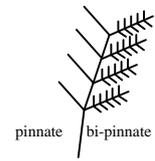


Techniques needed and shape



MACRO PLANT



Classification

Phylum: Rhodophyta; Order: Gigartinales; Family: Halymeniaceae
jelly weed; [§]red leather straps

*Descriptive name

Features

1. plants are **dark red** but may fade to yellow-red when dry, 200-500mm tall, **soft** and **slimy** (mucilaginous)
2. plants are attached to rock by a small disc with a tough but **narrow stalk**, expanding rapidly to main, **flat** branches about 40mm wide, with regular, flat-branched (**pinnate**) side branches about 20mm broad and 2mm thick usually narrower at their bases, and further narrow flat branching, about 2mm broad, tapering to a point

Occurrences

W Australia to Victoria and the north coast of Tasmania.

Usual Habitat

on rock in relatively deep water

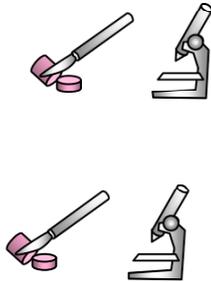
Similar Species

Halymenia floresia subsp. *harveyana* but that species is thinner and more delicate, with anatomical differences

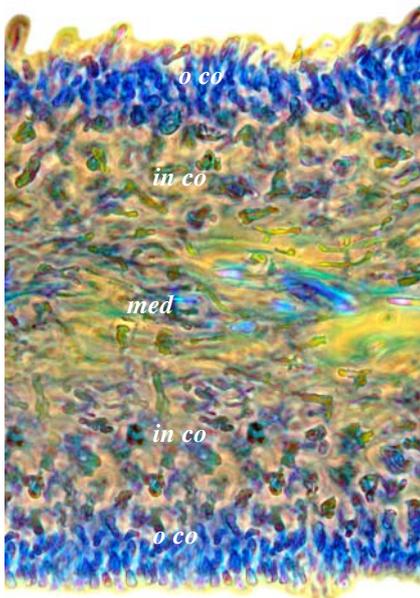
Description in the Benthic Flora Part IIIA, pages 206-208

Special Requirements

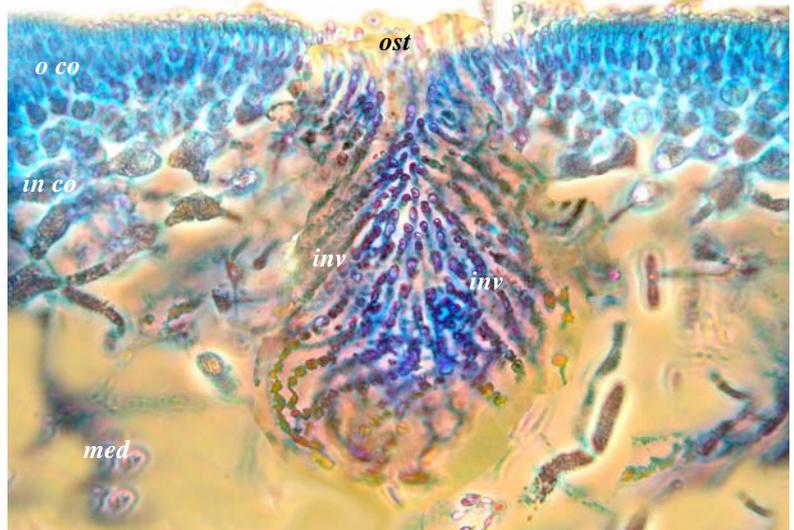
1. cut a cross section and view microscopically to find:
 - the **narrow** core (medulla) of **dense**, irregularly threads
 - **thick** outer layers (cortex) of inner star-shaped (**stellate**) cells and **forked** outer chains of about 4-8 **outwardly facing** small cells
 - bright (**refractive**) spidery (**ganglionic**) cells with thick centres and thin arms
2. if possible, cut a cross section of a female plant to find the products of fertilisation
 - ball-shaped structures protruding into the hollow core (medulla) and enveloped by a **prominent** network of threads (involucre) with **prominent** openings (ostioles)
 - with dense masses of carposporangia inside
3. if possible, cut a cross section of a sporangial plant to find scattered **elongate** tetrasporangia divided in a cross (cruciate) pattern amongst the cortical cells



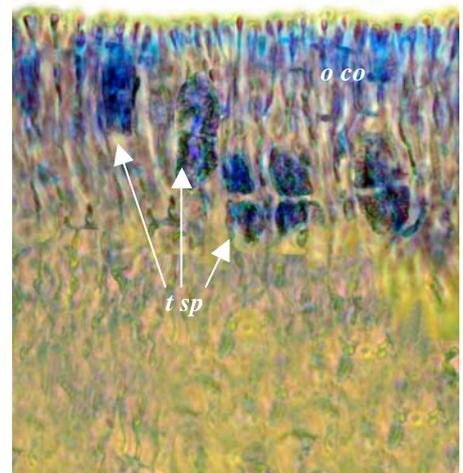
Details of Anatomy



1. 2.

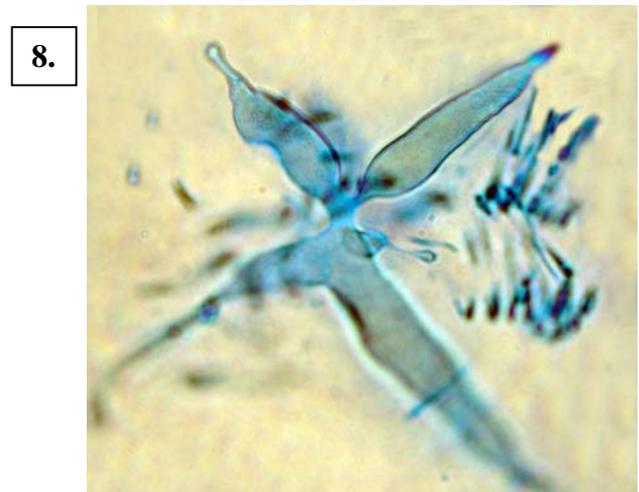
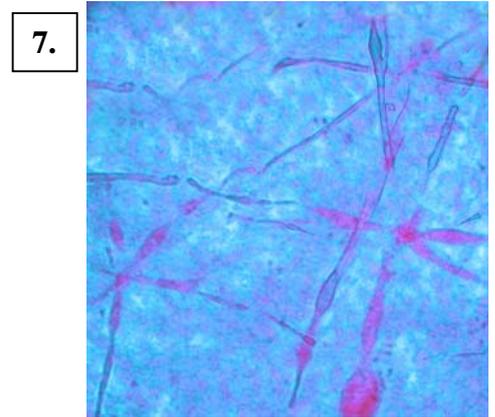
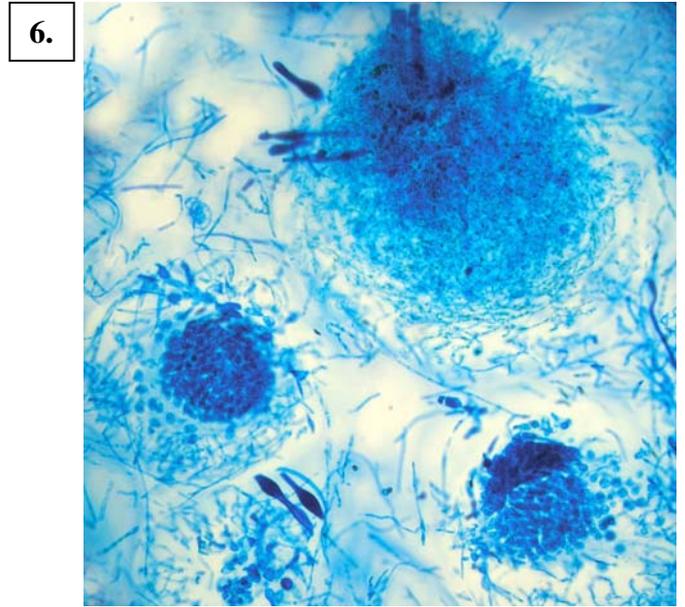


3.



Cross sections of *Gelinarina ulvoidea* stained blue and viewed microscopically showing

1. a dense mass of entwined threads in the core (medulla, *med*), and broad outer layers of inner larger and often star-shaped cells (inner cortex, *in co*) and forked branches if small cells facing outwards (outer cortex, *o co*) (A19013 slide 11703)
2. a female structure lying in a flask-shaped space (ampulla) in the cortex, with a prominent opening (ostioles, *ost*) and envelope of threads (involucre, *inv*) (A22204 slide 11709)
3. tetrasporangia (*t sp*) in various stages of dividing in a cross (cruciate) pattern in the outer cortex (A10855 slide 11705)



Gelinaria ulvoidea Sonder

4. 26m deep, west of North Point, St Francis I., S Australia (A69317)
5. 17-21m deep from West I., Nuyts Archipelago, S Australia (A69685)
- 6-8. tissue squashes stained blue and viewed microscopically:-
 6. female structures viewed from above with masses of carposporangia inside flask-shaped ampullae (A60181 slide 11660)
 7. spidery (ganglionic) cells from the core (medulla) (A22674 slide 11694)
 8. detail of the broader centres (central bosses) of a ganglionic cell (A59255 slide 11700)