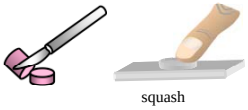
Halymenia muelleri Sonder

45.280

Techniques needed and shape

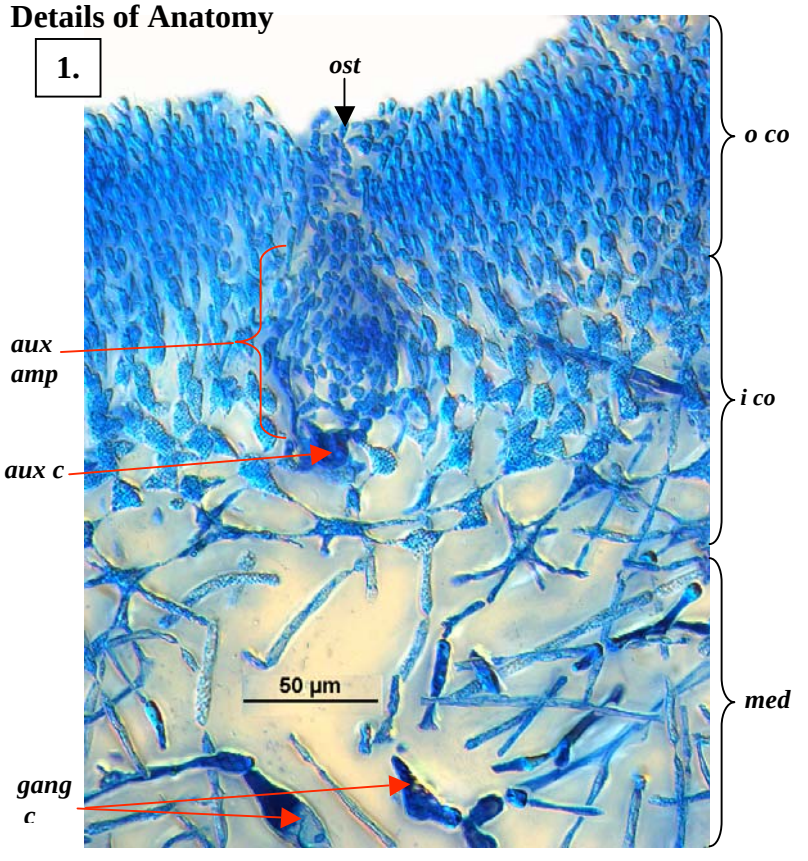
Classification	Phylum: Rhodophyta; Order: Gigartinales; Family: Halymeniaceae
***Descriptive name**	mottled, lobed red blades
Features	plants are dark red, fading to yellow-brown, 150-600mm tall, with several slippery, mottled, puckered lobed blades arising from a small stalk (stipe)
Occurrences	West Coast S Australia to Westernport Victoria
Usual Habitat	on rock in relatively deep water (10-17m)
Similar Species	*Halymenia plana* but *H. muelleri* is more lobed and has a more open outer layer (cortex)
Description in the Benthic Flora	Part IIIA, pages 194, 195-197

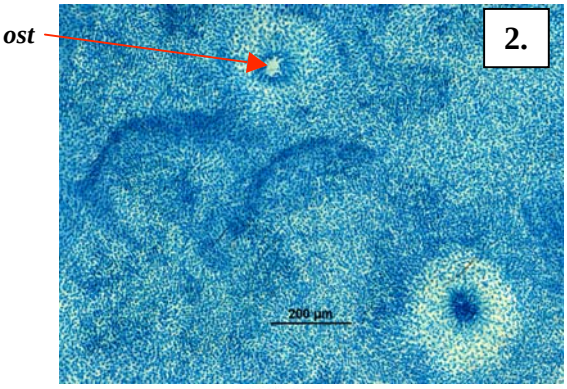
Special Requirements

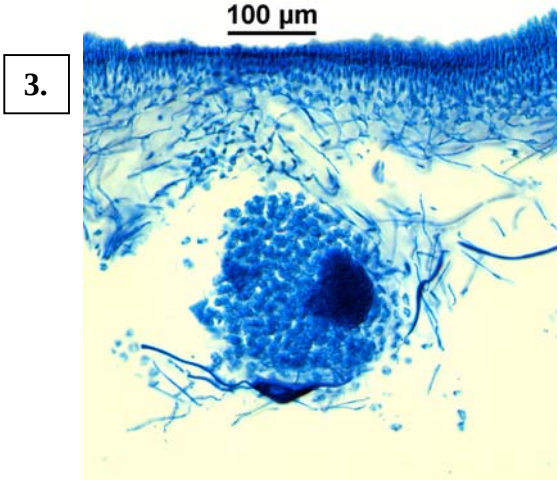


1. view the surface microscopically or make a tissue squash to find
   - prominent ***mottling***, spidery, ***bright*** (refractive) ganglionic cells, ***open*** clusters of tiny elongate cortical cells facing outwards
   - ***numerous*** small spots (***ampullae***) in females
   - scattered, tiny cross-shaped (cruciate) tetrasporangia in sporangial plants
2. a cross section or tissue squash of a blade shows:
   - a core (medulla) of loosely packed ***irregularly*** arranged threads mixed with bright, spidery (ganglionic) cells with very long arms
   - outer (cortex) layers of inner, larger cells becoming star-shaped and outer smaller, chains ***branched 3-5 times*** of elongate cells facing outwards

Details of Anatomy







Halymenia muelleri stained blue and viewed by interference microscopy to contrast cell details:

1. a cross section of one side of a blade showing
   - core (medulla, *med*) of irregularly placed threads and darkly stained arms of spidery ganglionic cells (*gang c*)
   - inner cortex (*i co*) of star-shaped cells
   - outer cortex (*o co*)of chains of smaller, elongate cells facing outwards branched 3-5 times
   - post-fertilisation reproductive stage (auxiliary cell ampulla, *aux amp*) with basal auxiliary cell (*aux c*) and threads forming an ampulla (*aux amp*) with an outlet (ostiole, *ost*) (A59159 slide 11678)
2. surface view of the outermost layer of a blade showing the small cortical cells and outline of post-fertilisation stages (carposporophytes) lying beneath opening by an ostiole (A30653 slide 11667)
3. cross section of a carposporophyte lying in the medulla (A22676 slide 11680)

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

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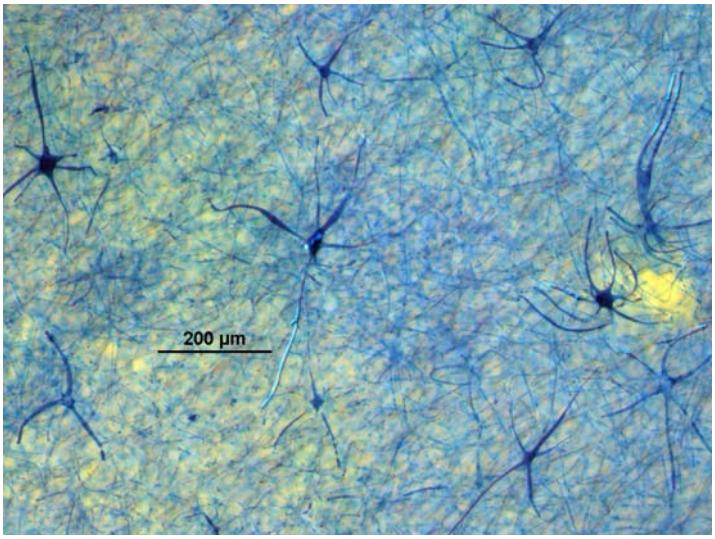
5.



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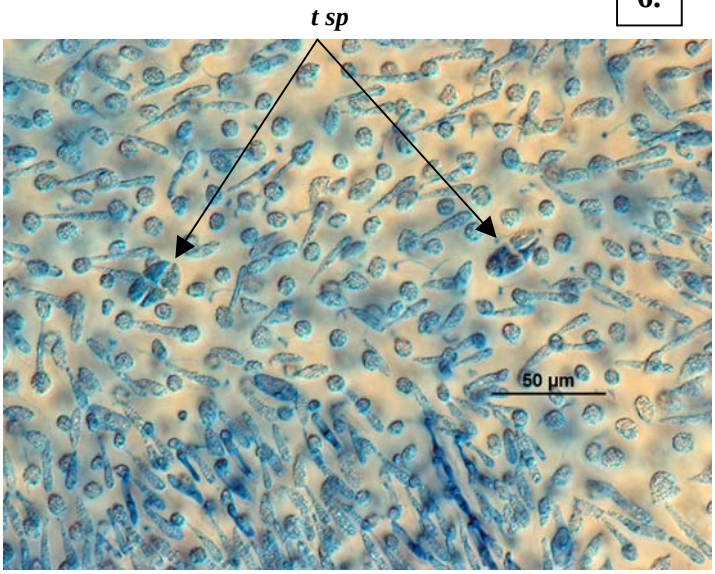

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4. a drift plant (A42769) from Port Stanvac, S Australia

5, 6 surface microscope views of specimens stained blue

5. focussing through the outer layer to show the spidery ganglionic cells of the medulla (A46640 slide 11663)
6. surface cells showing the relatively open arrangement of cortical cells characteristic of the species and two tetrasporangia (*t sp*) (A27090 slide 11675)

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