

Techniques needed and shape

Classification

Phylum: Rhodophyta; Order: Gigartinales; Family: Dicranemataceae

Features

plants dark **brown-red**, 50-130mm tall, gristly or **leathery**, branches flat-branched, forked, **compressed**, strap-like 2-3mm wide and 250µm thick; short **runners** with knobby ends (haptera) attach the plant to rocks

Occurrences

West I., S Australia to Victoria and SE Tasmania

Usual Habitat

deepwater (10-38m) or in shadowed shallow areas

Similar Species

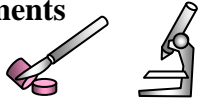
Tylopus, but that genus has wider branches and grows lying on rock attached by rhizoids, and has swollen cystocarps on the under surface

Description in the Benthic Flora

Part IIIA, pages, 325-328

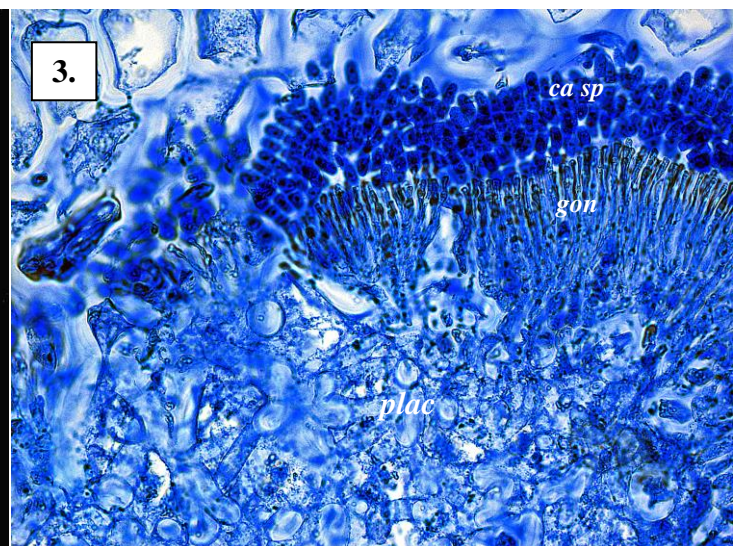
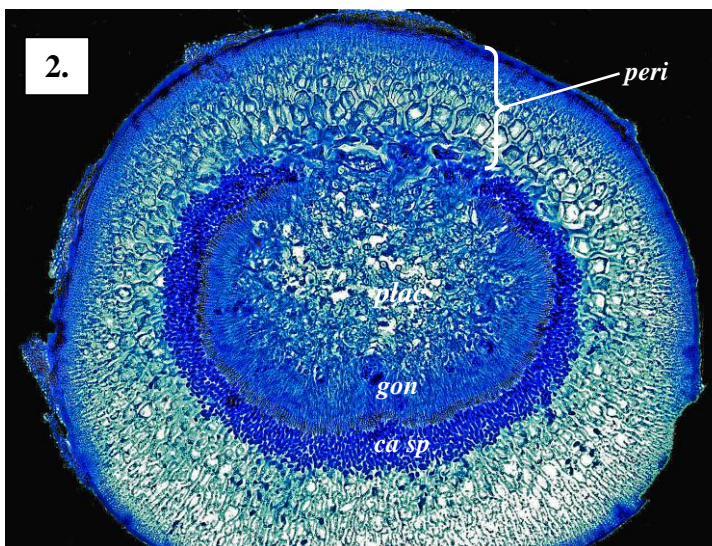
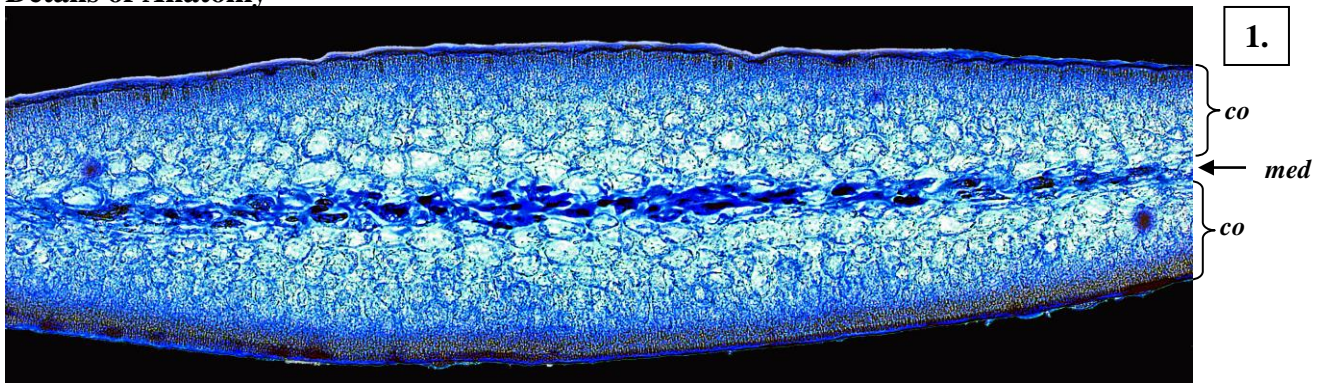
Special Requirements

cut cross sections and view microscopically to find



- a **narrow** core (medulla, **med**) of elongate cells with **bright** yellow contents; a **wide** outer layer (cortex, **co**) of equal-sided cells (inner ones **large** and outer **small**)
- in mature female structures (cystocarps) forming **knobby** swellings just below branch tips: each with a thick envelope (pericarp, **peri**), single opening (ostiole), central mass (placenta, **plac**) of fused fertile (gonimoblast, **gon**) cells, **radiating**, elongate peripheral cells with **short chains** of carposporangia at their tips. Male spermatia occur in minute packets in the outer cortex of the **same** plants
- In sporangial plants: **scattered** tetrasporangia divided across (zonately) in t outer layers (cortex) (not imaged below)

Details of Anatomy

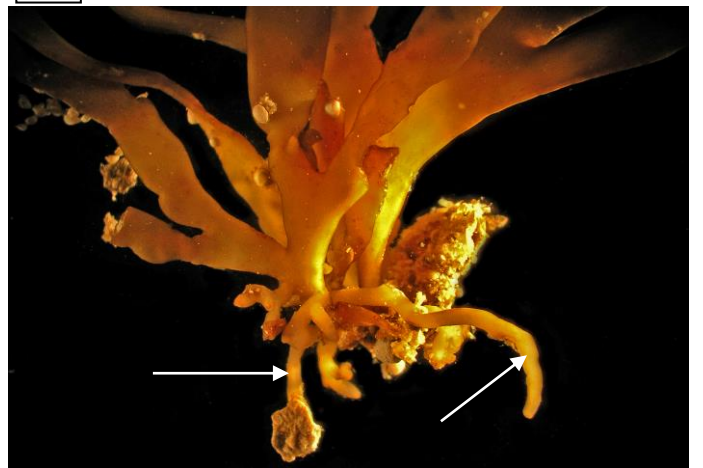
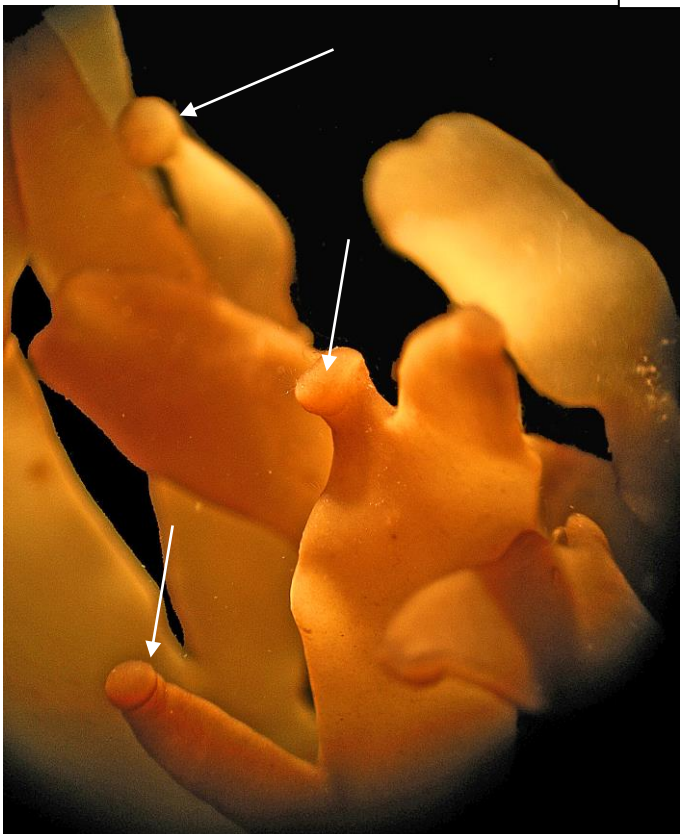
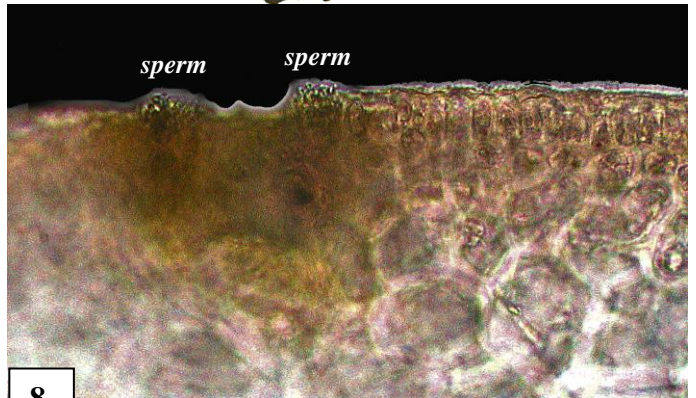
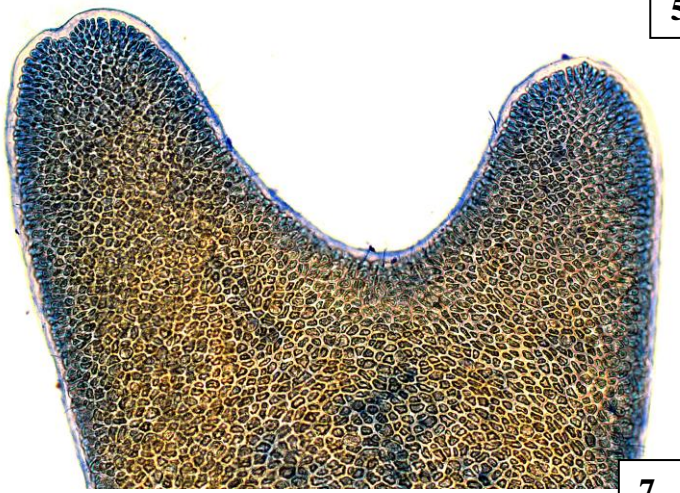


Cross sections of *Peltasta australis* stained blue and viewed microscopically

1. wide outer layer (cortex, **co**) of inner large and outer small cells; narrow core (medulla, **med**) of elongate cells, their bright yellow contents have stained deep blue in this preparation (slide 12575)

2-3. two magnifications of a cystocarp: thick pericarp (**peri**), central fusions of fertile and vegetative cells (placenta, **plac**), radiating gonimoblast threads (**gon**) ending in short chains of carposporangia (**ca sp**) (slide 12575)

* Descriptive names are inventions to aid identification, and are not commonly used
"Algae Revealed" R N Baldock, State Herbarium S Australia, April 2008; revised May 2014



Peltasta australis J Agardh,

4. two plants from Althorpe I., S Australia (A70579)
5. microscope view of forked tip (slide 12575)
6. sectioned, highly magnified view of the outer cortex: packets of spermatia (*sperm*)
- 7, 8. preserved (bleached) plants (A44740):
7. cystocarps forming **knobby** swellings just below branch tips (arrowed)
8. plant base with short, claw-like runners (arrowed)