

Techniques needed and shape



Classification

Phylum: Rhodophyta; Order: Gigartinales; Family: Halymeniaceae
small red Wiry-weed

*Descriptive name

Features



plants dark red-brown 10-35mm long, **gristly**, branching pattern **flat**, of irregularly **forked**, narrow, compressed branches about **0.5mm** broad

Occurrences

Venus Bay, West coast, S Australia, SE Tasmania to S NSW

Usual Habitat

in shallow water on reefs or on seagrass and sponges

Similar Species

Polyopes constrictus, but that species has broader branches, and a compact arrangement of microscopic threads in the core of branches. Superficially similar to *Gelidium*.

Description in the Benthic Flora

Part IIIA, pages, 171, 177-178

Special Requirements



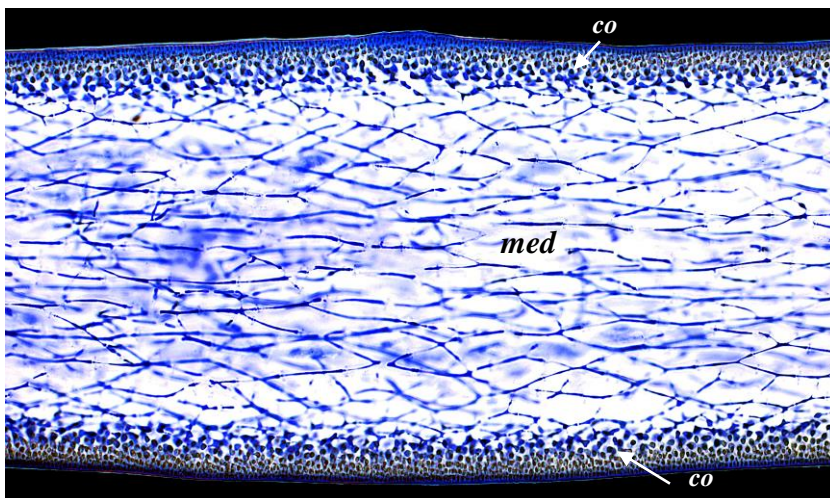
cut lengthwise sections and view microscopically to find



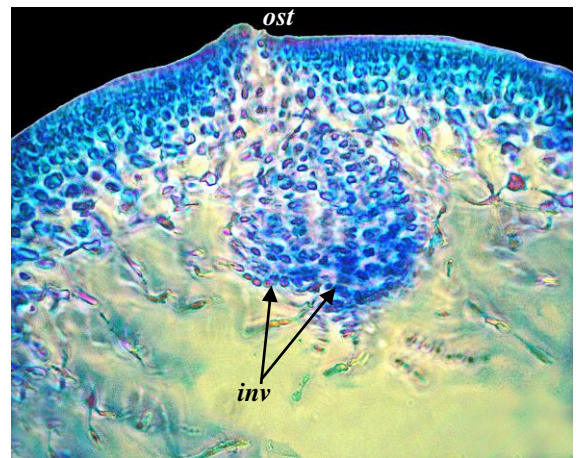
- **firm** outer layers (cortex) of rows of small cells at right angles to the surface, **wide** cores (medulla) of numerous, **loosely arranged** threads
- in female plants: **initially**, numerous, dense, cell clusters in the inner cortex forming small flask-shaped spaces (**ampullae**) opening to the surface, **later**, developing into large, ball-shaped ampullae protruding into the core (medulla), enveloped by a network of threads (involucre), **finally**, dense masses of carposporangia produced within the ampullae, that escape through small openings
- in sporangial plants: patches (nemathecia) of tetrasporangia at the base of **swollen** branch tips which when sectioned reveal small, elongate tetrasporangia divided in a cross (cruciate) pattern, lying between the short chains of cells of the cortex, elongate hairs (found in other *Polyopes* species) **absent**

Details of Anatomy

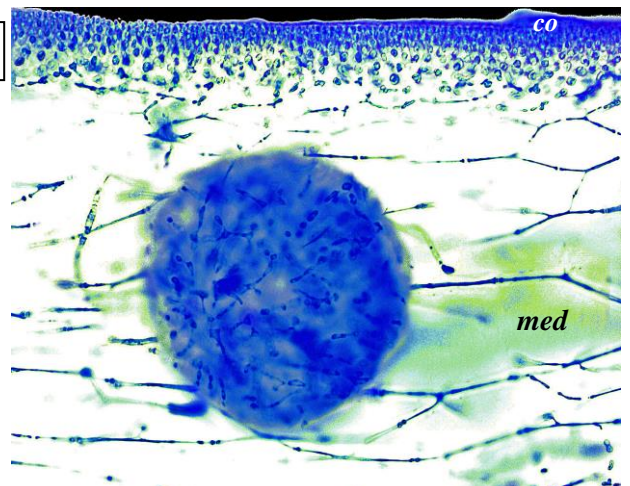
1.



2.



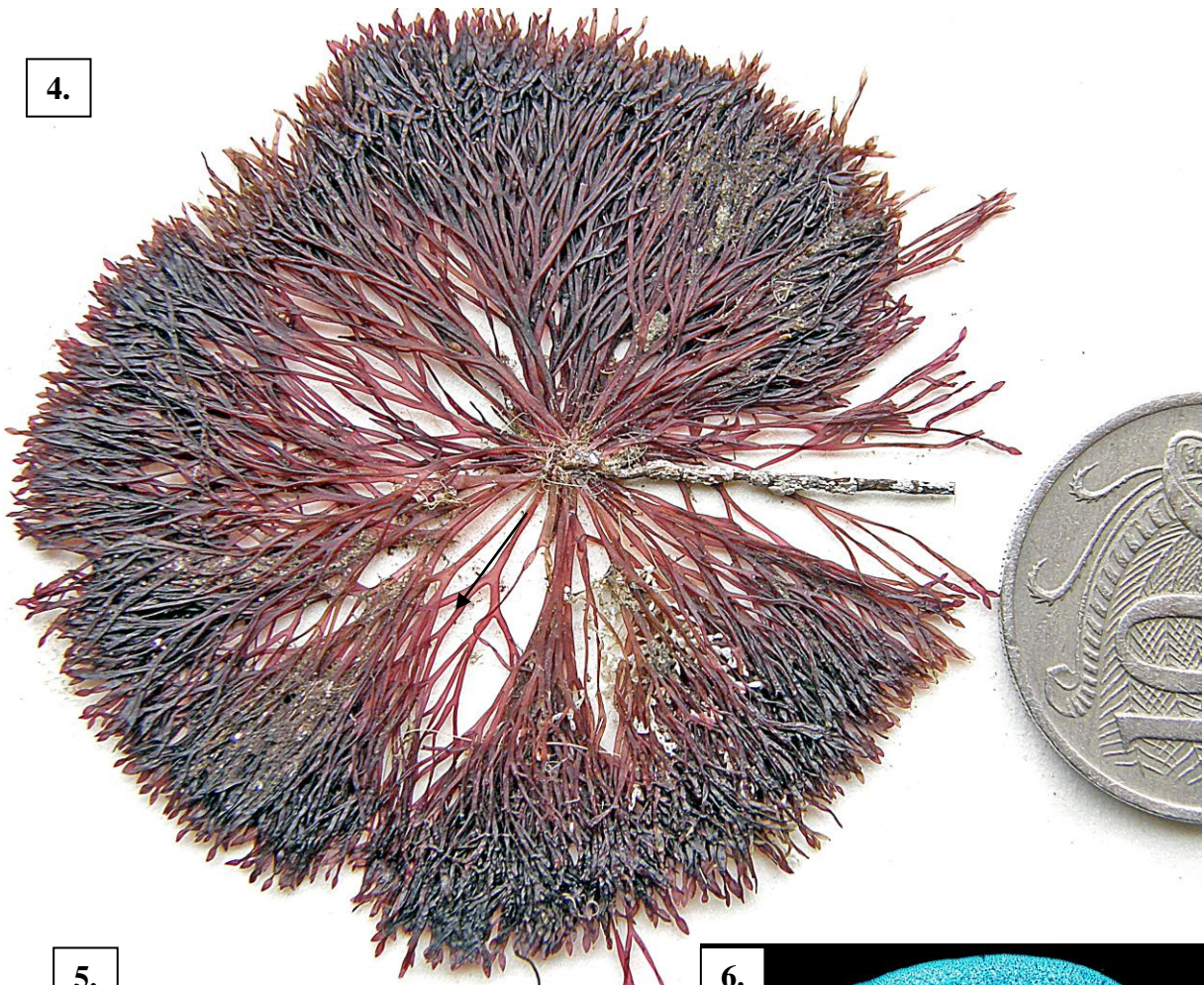
3.



Polyopes tenuis: sections stained blue and viewed microscopically

1. lengthwise section: wide core (medulla, **med**) of loosely arranged threads, outer layer (cortex, **co**) of short rows of outwardly pointing small cells (slide 11769)
2. young female structure: flask-shaped ampulla with prominent envelope of threads (involucre, **inv**); narrow, slightly protruding opening (ostiole, **ost**) (slide 11989)
3. later female stage: ampulla pushed well into the core (medulla), carposporangia-producing cells (carposporophyte) within (slide 11768)

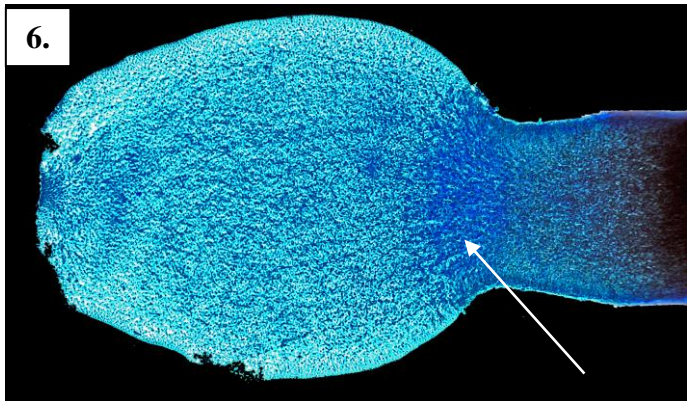
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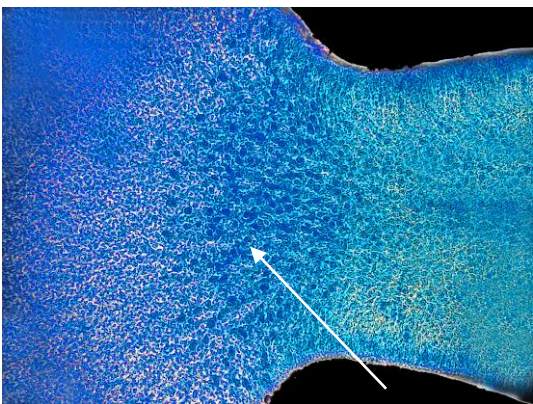
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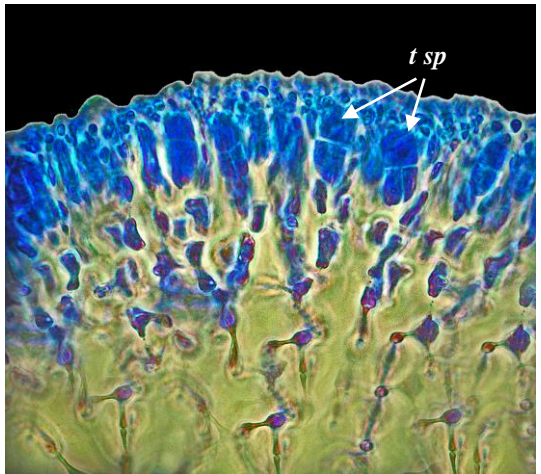
6.



7.



8.



Polyopes tenuis Womersley & Lewis

4, 5. two magnifications of a drift plant of from Outer harbour, S Australia A35901

6-8. different magnifications of a sporangial plant stained blue and viewed microscopically: massed tetrasporangia (**arrowed**) at the base of terminal swellings (slide 12971); cross section with tetrasporangia (**t sp**) divided in a cross-shape (cruciate) lying in the cortex (hairs **absent**) (slide 112967)

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