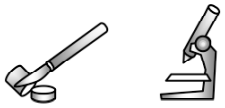
Cryptonemia nitophylloides (J Agardh) Lewis

45.280

Techniques needed and shape



MACRO PLANT

Classification Phylum: Rhodophyta; Order: Gigartinales; Family: Halymeniaceae

***Descriptive name** pointed red blades

Features

1. plants, pink to red-brown, 20-55mm tall, tough in texture, consist of stalks ending in blades
2. ***blades*** often with pointed end, about 10mm broad are forked or irregularly branched, wider above the fork, sometimes crossed by white bands, or with numerous small branches at the ends if damaged
3. ***stalks*** are gristly, cylindrical, up to 60mm long and 2mm wide, extending a short distance into blades

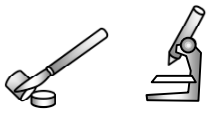
Occurrences SE Australia from Port Phillip Heads to Richmond R., NSW

Usual Habitat on rock, in reef undercuts in shallow water, to 18m deep

Similar Species *Cryptonemia nitophylloides* could possibly be confused with members of the Kallymeniaceae *e.g. Thamnophyllis, Cirrulicarpus* but it is too tough to be confused with a member of the Delesseriaceae such as *Nitophyllum*

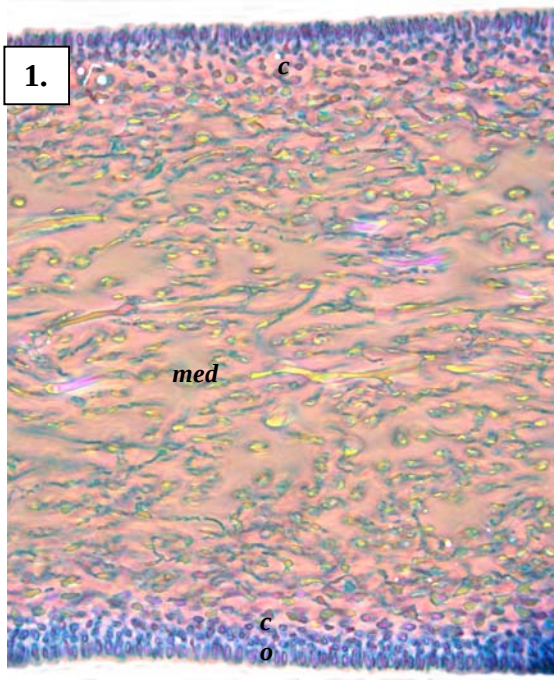
Description in the Benthic Flora Part IIIA, pages 183, 185-186

Special Requirements



1. focus microscopically on the surface and edge of a blade to see bright (***refractive***) spidery (***ganglionic***) cells with ***straight arms*** beneath clusters of tiny surface cells
2. if possible, cut cross sections of blades and view microscopically:-
   - a large core (medulla) of ***largely parallel*** threads and ***bright*** ganglionic cells
   - outermost layers of closely packed ***small*** cells ***tapering*** to a point
   - inner layers (inner cortex) of rounded ***larger*** cells
3. if possible find female plants, cut cross sections and view microscopically the flask-shaped structures (***ampullae***) (not imaged below) protruding into the blade core from the cortex, in a ***loose envelope*** (involucre) of threads forming a cluster around a ***narrow*** opening (ostiole) at the surface
4. if possible find spore plants (not imaged below), cut cross sections and view microscopically the ***sparse***, ***scattered*** tetrasporangia in the outer layers, finally divided in a cross (***cruciate***) pattern

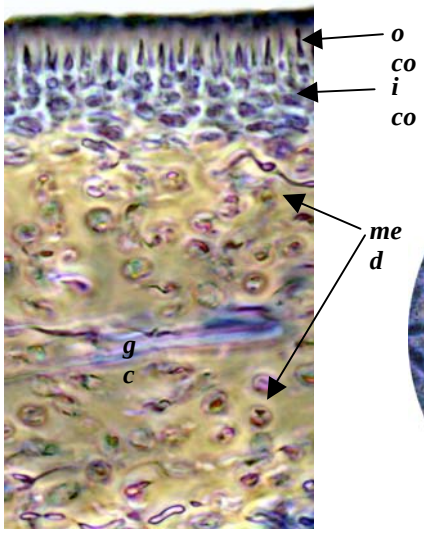
Details of Anatomy



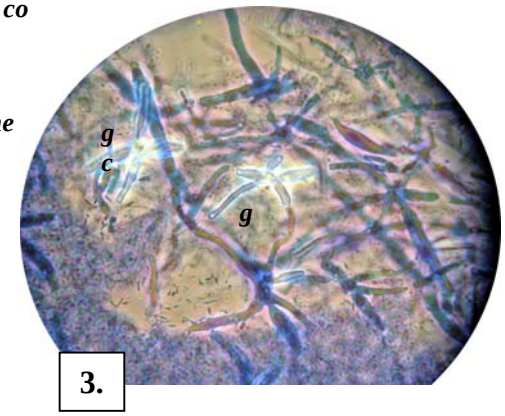
Cryptonemia nitophylloides stained blue and viewed using phase contrast microscopy to highlight cell shape:

1, 2. cross sections of a bladeshowing:
   1. the wide core (medulla, *med*) of almost ***parallel*** threads, and thin outer (cortex, *co*) layers (A18543 slide 2923)
   2. one side of a cross section in detail, showing a bright (refractive) spidery (ganglionic) cell (*g c*), inner cortex (*i co*) of ***rounded*** cells and outer cortex (*o co*) of cells ***with narrow points*** facing outwards (A54151 slide 11828)

3. detail of a squash of the medulla tissue showing threads and two bright, star-shaped ganglionic cells (A18543 slide 2924)



2.



3.

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

Prepared July 2008

5. *Cryptonemia nitophylloides* (J Agardh) Lewis, (A54151), 2-3m deep under an overhang, Lighthouse Reef, Port Lonsdale, Victoria

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Prepared July 2008