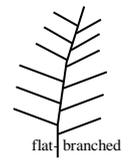


Techniques needed and shape



MACRO PLANT



Classification
*Descriptive name
Features

Phylum: Rhodophyta; Order: Gigartinales; Family: Mychodeaceae
Shepherds Crook Mychodea

1. plants red-brown, 100-200mm tall, of *tangled* clumps
2. main branches (axes) long, *thin*, 1-2mm wide, flat, *gristly* and irregularly branched
3. short side branches arise from *edges* of axes, and may be *hooked* at the tips
4. female structures (cystocarps) form swellings at the *base* of side branches



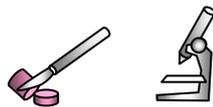
Occurrences
Usual Habitat
Similar Species

Kangaroo I., S Australia to Victoria and around Tasmania
commonly on sea grasses (mainly *Amphibolis*) also on algae in rock pools to 17m deep
Hypnea ramantacea has hooked branches and a tangled appearance, but branches are cylindrical (terete) and arise radially

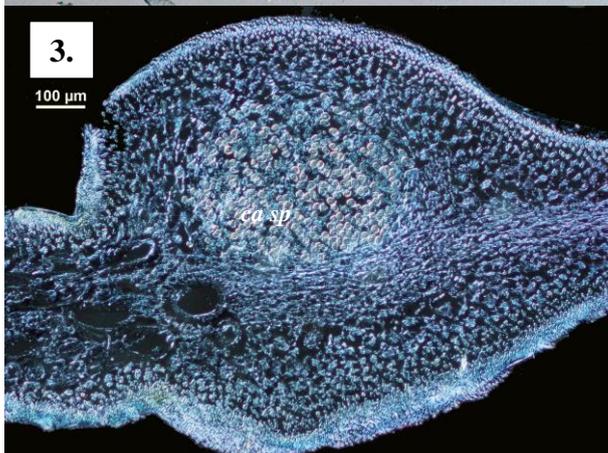
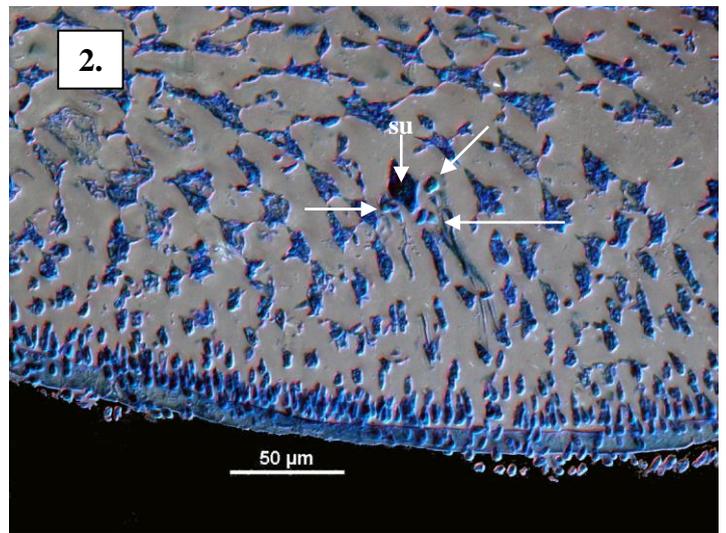
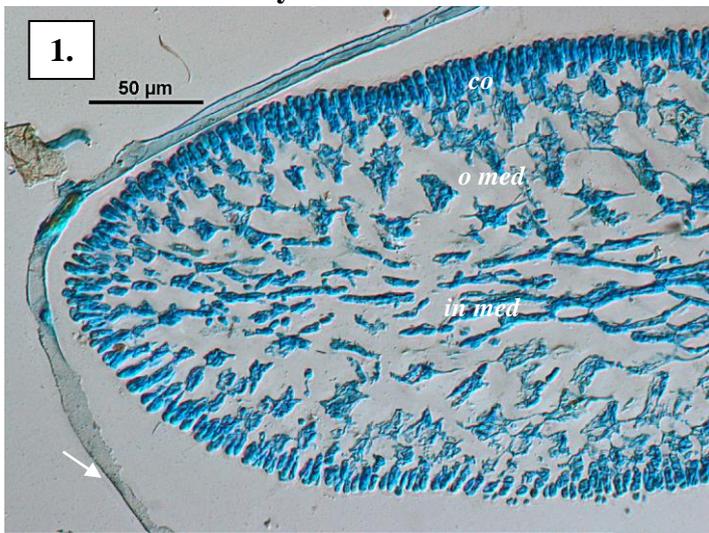
Description in the Benthic Flora
Special Requirements

Part IIIA, pages 456-459

1. cut a cross section of a branch and view microscopically to find:
 - a single central thread in the core (medulla), becoming indistinguishable when surrounded by rhizoids
 - *large* cells, sometimes *few* in number, in the outer part of the core mixed with rhizoids at their margins
 - outermost (cortex) layers of very *small* cells in 2-3 rows, facing outwards, *not* forming rings in surface view
3. find female structures (cystocarps), forming swellings at the *base* of side branches. Cut a cross section to view:
 - central *clusters* of spores
 - an envelope of threads, but *no* opening (ostiole)
4. if possible, find sporangial plants with cigar-shaped tetrasporangia *scattered* near the surface, divided across into four spores (*zonate*)



Details of Anatomy

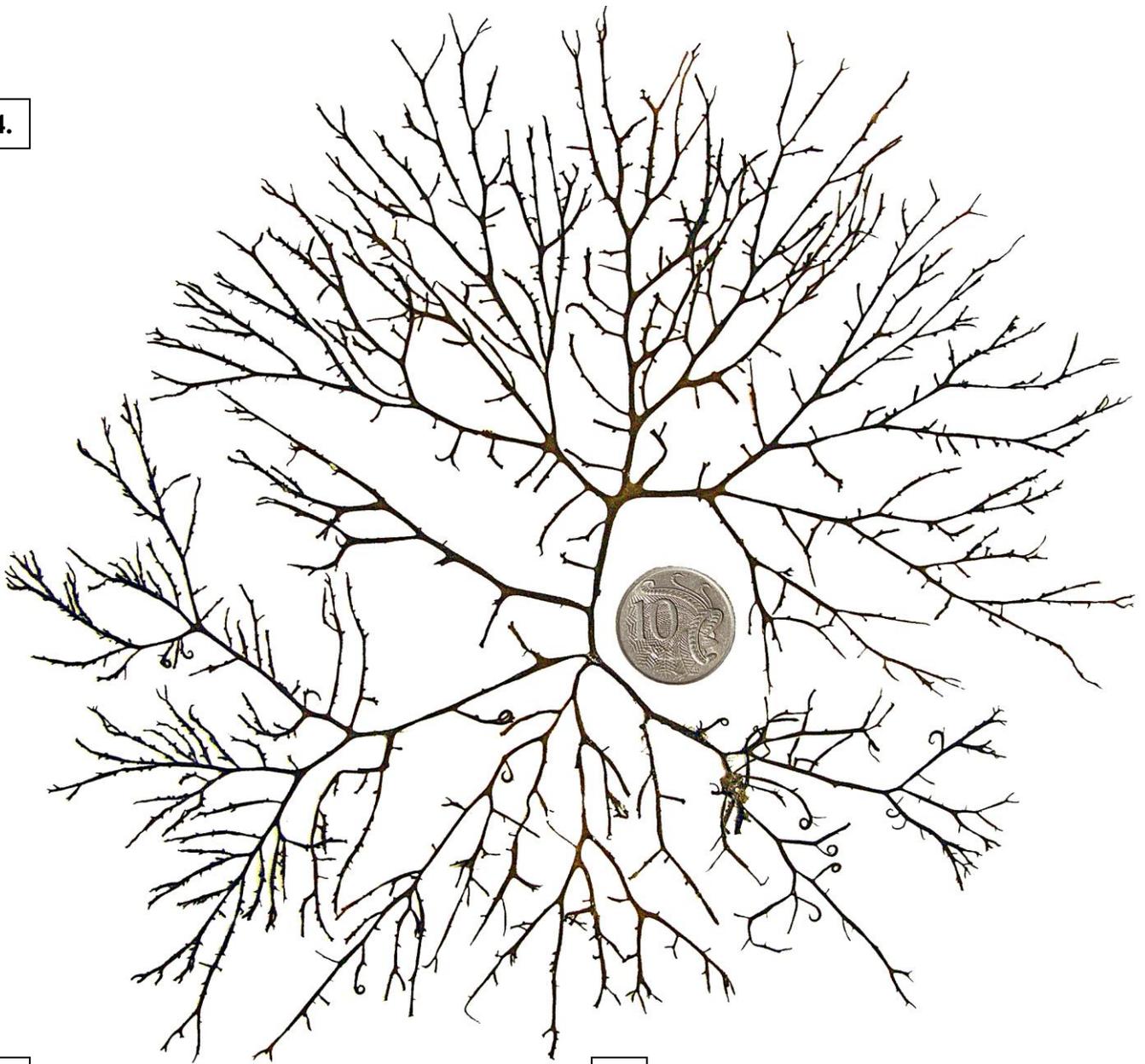


Microscope sections of *Mychodea hamata* stained blue

1. lengthwise slice of a branch tip with core (inner medulla, *in med*) of threads, outer medulla of large cells (*o med*), surface of outward facing small cells (cortex, *co*) and (detached) gristly membrane (arrowed) (A44718 slide 3734)
2. a cross section of a part of a branch with developing female structures showing several 3-celled carpogonial branches (arrowed) developing from the one large cell (supporting cell, *su*) (A44718 slide 3736)
3. a cross section of a swollen cystocarp under interference microscopy to highlight the mass of central spores (carposporangia, *ca sp*) and lack of an opening (A44718 slide 3738)

* Descriptive names are inventions to aid identification, and are not commonly used
“Algae revealed, R N Baldock, State Herbarium S Australia, December 2008; edited April 2014

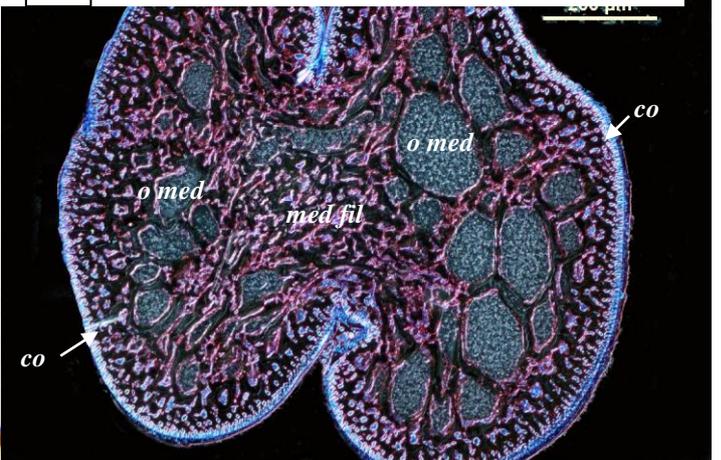
4.



5.



6.



- 4, 5. two magnifications of *Mychodea hamata* Harvey, (A44718), from jetty pylons, 3-4m deep, at Robe S Australia, showing the compressed, narrow branches and detail of some hooked side branches
6. a cross section stained blue and viewed by interference microscope of the base of a fork in a branch with central threads (medullary filaments, *med fil*) large cells of the outer medulla (*o med*) and small cells of the outermost cortex (*co*) (A44718 slide 3735)