Mychodea carnosa
Hooker & Harvey

45.600

MACRO PLANT

Techniques needed and shape

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

***Descriptive name**

Features

1. plants red-brown, 100-300mm tall, radially branched and gristly
2. side branches ***narrowed*** at the base and ***pointed*** at the tips

Occurrences SW W Australia to Victoria and around Tasmania

Usual Habitat on rocks and jetty pilings, from shallow water to 31m deep

Similar Species *Hypnea* spp which differ reproductively and do ***not*** have surface cell rings (rosettes)

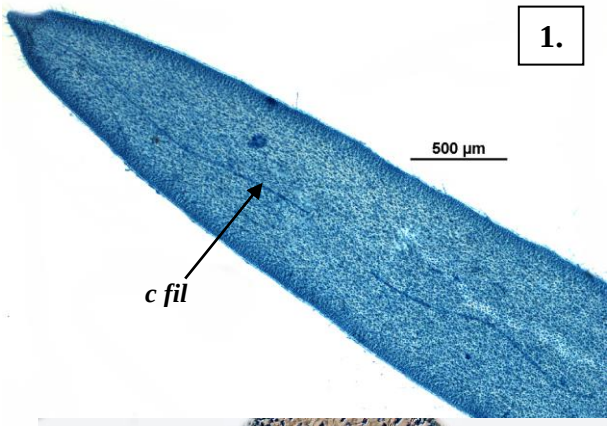
Description in the Benthic Flora Part IIIA, pages 451-454

Special Requirements

1. view a branch tip microscopically. Find the prominent ***central thread*** running lengthwise and surface cells in vague rings (***rosettes***)
2. cut a cross section of a branch and view microscopically to find:
   - a single central thread in the core (medulla), becoming indistinguishable with the addition of surrounding rhizoids
   - ***large*** cells in the outer part of the core
   - outermost (cortex) layers of very ***small*** cells in 2-3 rows, facing outwards
3. find female plants with swellings (cystocarps), at the ends of side branches. Cut a cross section to view:
   - very short chains of spores
   - growth of the cortex except at one spot causing a ***dimple*** in the swollen branch
4. if possible, find sporangial plants with cigar-shaped tetrasporangia ***scattered*** near the surface, divided across into four sporangia (***zonate***), originating ***between*** cortical cells

Details of Anatomy

1.



2.

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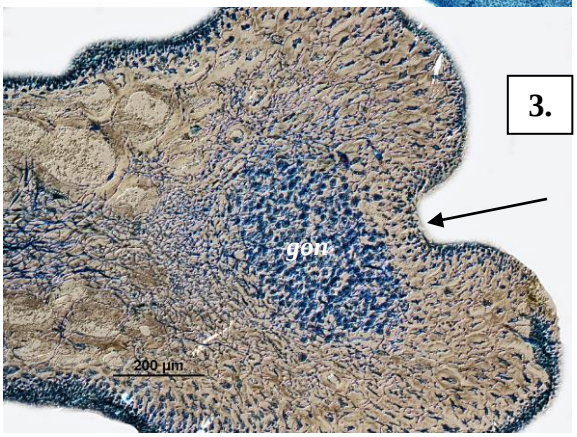

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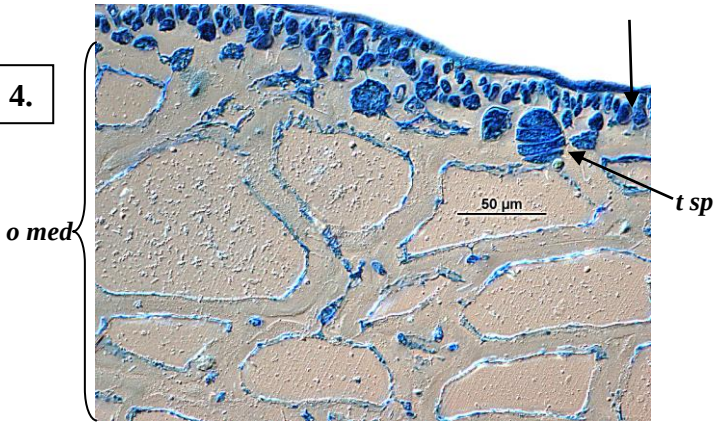
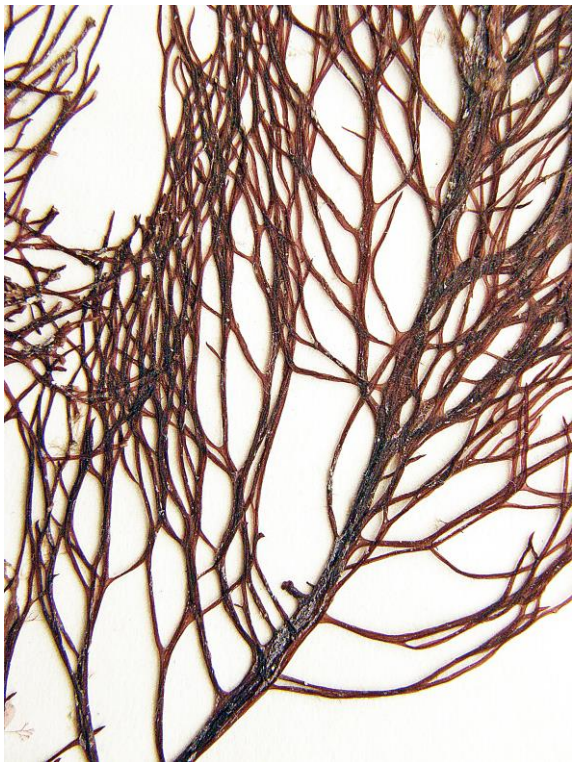


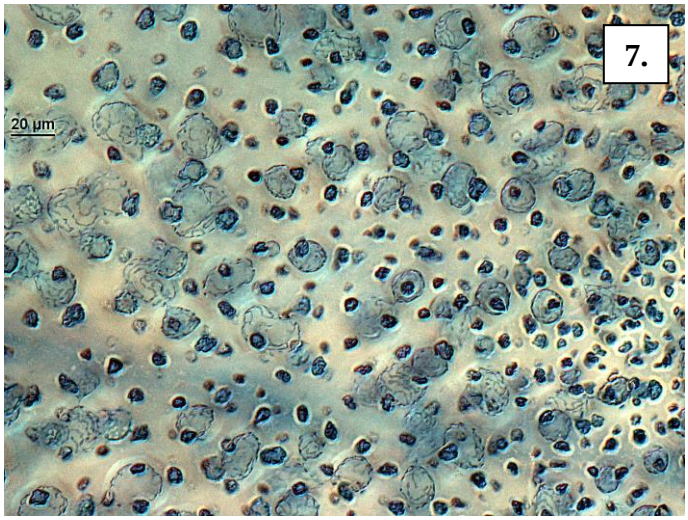
Mychodea carnosa stained blue and viewed microscopically

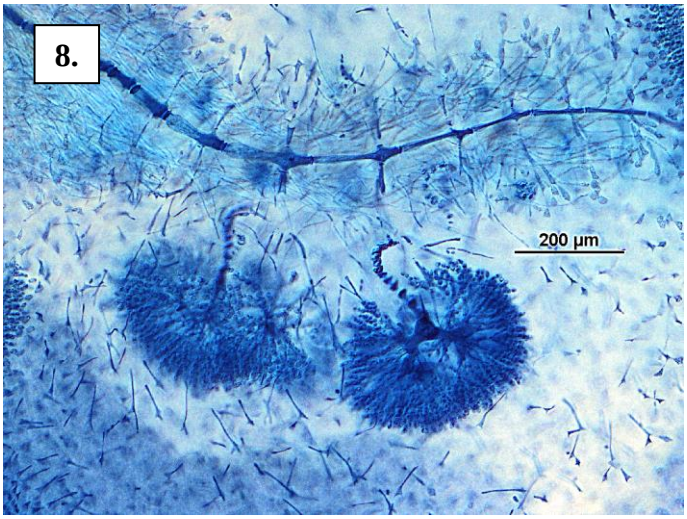
1. surface view of a branch tip with central thread (***c fil***) visible (slide 18298).
2. cross section: innermost central thread (***c fil***) surrounded by rhizoids (***rhiz***); large, thick-walled cells of the outer medulla (*o med*); small cells of the outermost layers (cortex, ***co***) (slide 15795)
3. lengthwise section through a cystocarp with developing tissue (gonimoblast, ***gon***), and dimpled cortex (**arrowed**) (slide 3704)
4. cross section of the outer part of a sporangial plant: developing tetrasporangium (arrowed) between 2 cortical cells (intercalary) and a mature sporangium (***t sp***) divided across (zonately) (A44685 slide 3705)

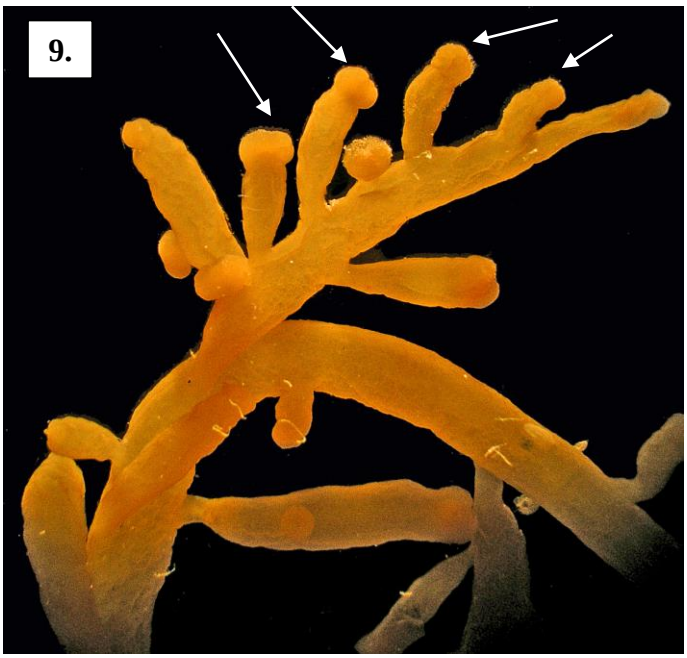
* Descriptive names are inventions to aid identification, and are not commonly used

"Algae revealed", R N Baldock, State Herbarium S Australia, November 2008, addition November 2008, edited April 2014









5, 6. two magnifications of *Mychodea carnosa* Hooker & Harvey (A33514), 15m deep at Tapley Shoal, S Australia

7. surface view of cells of a specimen stained blue and viewed microscopically showing vague rings (rosettes) of small surface cells around underlying larger ones (A18298)

8. tissue squash of a two female structures (carposporophytes) adjacent to the central thread of a branch. Each cell of the central thread shows pairs of opposite, thin, radiating cells (periaxial cells) (slide 18298)

9. preserved (bleached) female specimen (A44685) showing dimpled, terminal cystocarps (arrowed)

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