Mychodea acicularis
(J Agardh) Kraft

45.600

Techniques needed and shape

MACRO PLANT

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

***Descriptive name** spiny threads

Features

1. plants red-brown, 100-200mm tall, with ***cylindrical*** branches, ***firm*** in texture
2. stubby, ***pointed*** spines about 1mm long are scattered along branches
3. a hydrozoan, *Plumularia flexuosa*, specifically grows all over plants
4. ***hooked tendrils*** in lower parts attach plants

Occurrences S W Australia to Victoria

Usual Habitat probably a summer annual on rocks, wooden pilings, seagrass (*Amphibolis*), sponges and sea squirts, from shallow water to 24m deep, in moderately sheltered localities

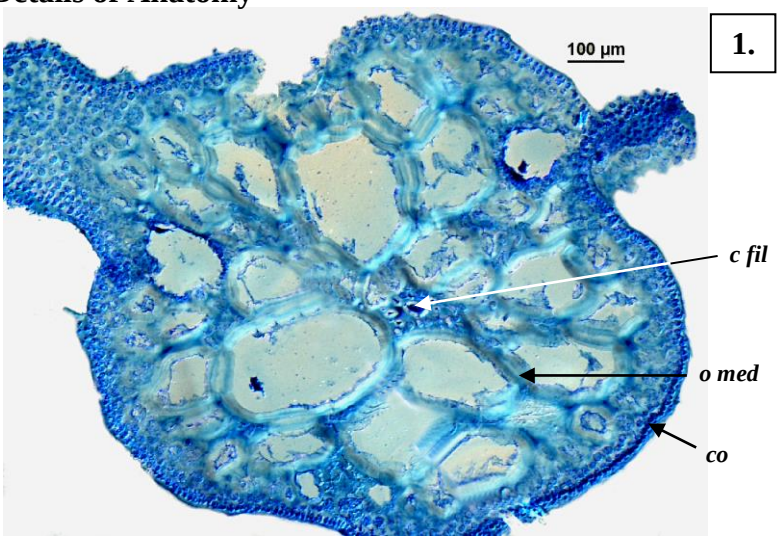
Similar Species unique because of its gristly, spiny characteristics and epiphytic hydroid

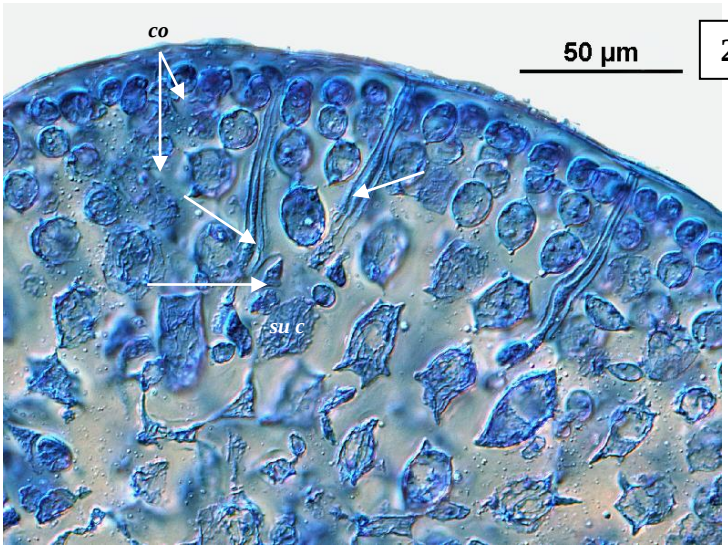
Description in the Benthic Flora Part IIIA, pages 461, 462-464

Special Requirements

1. cut a cross section of a branch and view microscopically to find:
   - a single central thread in the core (medulla)**,** surrounded by a few rhizoids
   - large cells in the outer part of the core with a few (inconspicuous) threads
   - outermost (cortex) layers of very ***small*** cells in branches chains, facing outwards
2. find female plants with ball-shaped swellings (cystocarps), at the base of short, spiny branches. Cut a cross section if possible to view:
   - chains of spores
   - a poorly developed cellular wall (pericarp) and ***no*** opening
3. if possible, find sporangial plants with ***large***, cigar-shaped tetrasporangia scattered near the surface, divided across into four sporangia (***zonate***) (not imaged below)

Details of Anatomy



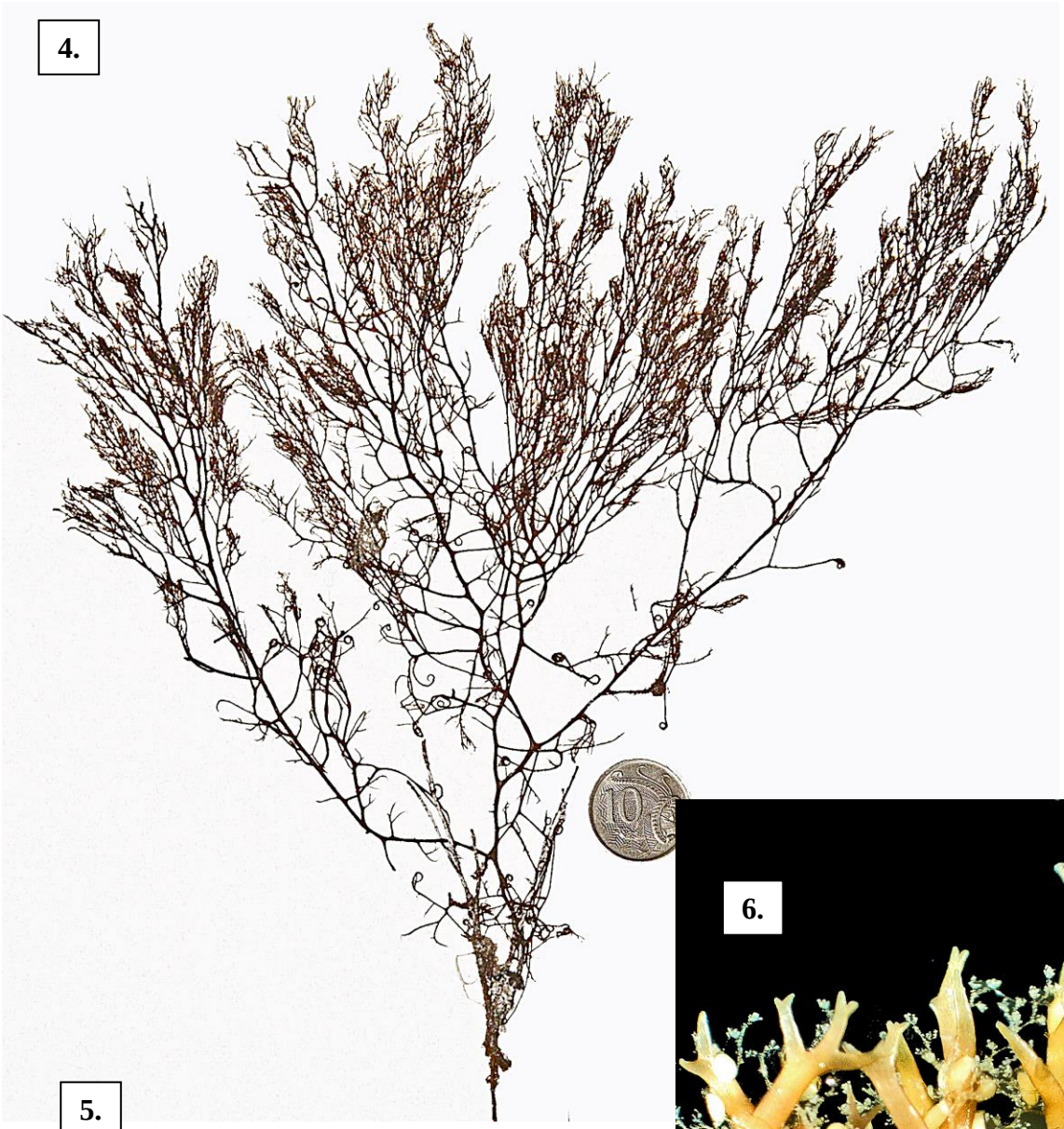


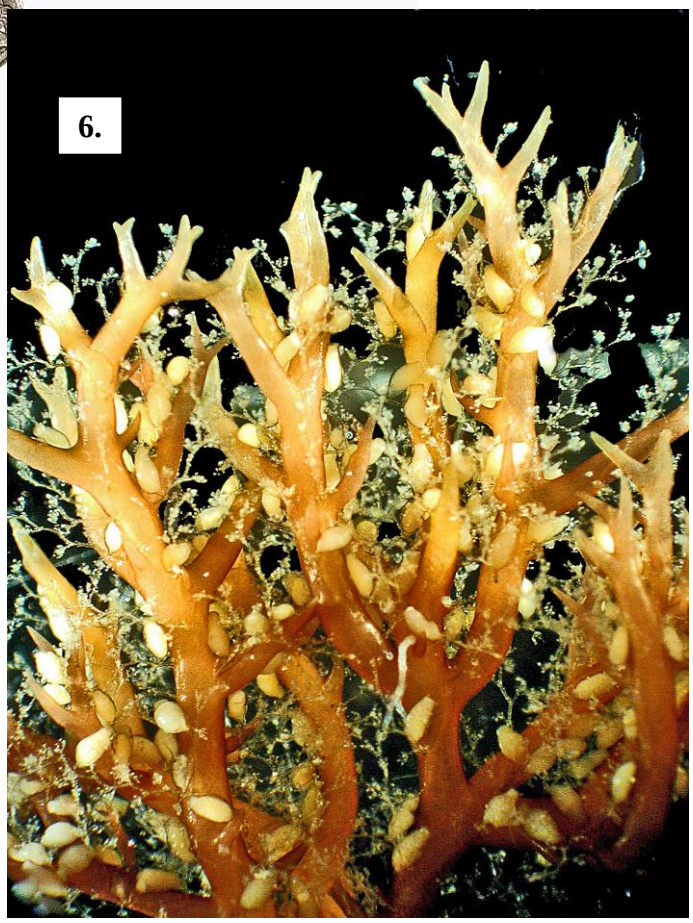
1, 2. cross sections of *Mychodea acicularis* stained blue and viewed microscopically
   1. central thread (***c fil***) wrapped in rhizoids, large-celled outer core (outer medulla, ***o med***), surface layers (cortex, ***co***) of very small cells (slide 3727)
   2. developing female structures (procarps): 3 carpogonial branches (arrowed) on the one cell (supporting cell, ***su c***) within the branched chains of small cortex cells (slide 3726)

3. preserved, (bleached) female specimen (A44711) magnified to show swollen cystocarps (***cys***) at the base of spines, and the fine zigzag runners of the epiphytic hydroid (**arrowed**) on the plant surface

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

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





4, 5. pressed specimens of *Mychodea acicularis* (J Agardh) Kraft (A33483) from 10m deep at Tapley Shoal, S Australia, with prominent hooked tendrils

6. preserved (bleached) specimen from Goolwa, S Australia heavily infested with delicate traceries of epiphytic hydroids (*Plumularia flexuosa*). The large, vase-shaped objects are reproductive structures of the hydroids

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